

STIC Search Report Biotech-Chem Library

STIC Database Tracking Mumber

TO: Nita M Minnifield

Location: REM/3C01/3C18

Art Unit: 1645

Saturday, September 03, 2005

Case Serial Number: 10/789536

From: Mary Jane Ruhl

Location: Biotech-Chem Library

Remsen 1-A-62

Phone: 571-272-2524

maryjane.ruhl@uspto.gov

Search Notes

Examiner Minnifield,

Here are the results for your recent search request.

Please feel free to contact me if you have any questions about these results.

Thank you for using STIC services. We appreciate the opportunity to serve you.

Sincerely,

Mary Jane Ruhl Technical Information Specialist STIC Remsen 1-A-62 Ext. 22524





STIC-Biotech/ChemLib

163642

From: Sent:

Minnifield, Nita

Wednesday, August 24, 2005 12:36 PM

To: Subject:

STIC-Biotech/ChemLib interference search request

10/789536

STIC

Please do an interference sequence search on SEQ ID NO: 1 and 6 of this application.

Please show first 30 results/alignments.

Please provide a paper copy of all results.

Thanks, Minnifield, 71976 Art Unit 1645 Office REM-3C01 Mailbox REM-3C18 571-272-0860

STAFF USE ONLY

Searcher:
Searcher Phone: 2Date Searcher Picked up:
Date Completed:
Searcher Prep/Rev. Time:
Online Time:

Type of Search

NA#:	AA#:
Interference:	SPDI:
S/L:(Oligomer:
Encode/Trans	sl:
Structure#:_	Text:
Inventor:	Litigation:

Vendors and cost where applicable STN:

DIALOG:
QUESTEL/ORBIT:

LEXIS/NEXIS:
SEQUENCE SYSTEM:
WWW/Internet:

Other(Specify):_

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OM nucleic

Run on:

Sequence:

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ALIGNMENTS
AAA90449
AAH20334
AAH192658
AAH192658
AAF98634
AAF989763
AAF999763
AAF999763
AAF999763
AAF99300
AAF99300
AAF99300
AAF99303
AAAA92361
AAS09639
AAS78485
AAS786485
AAS786485
AAS786485
AAS78639
AAS786308
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ADR44719
ABL58978
ADC87010
ABT19577
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ADC04739
ADC8904
ADR69904
ADR99198
ABF99198
ABF99189
ADB37300
ACH03322
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ACC69910
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Aav48834 B-cell st
Acd61359 B-cell st
Acd62324 Lymphocyt
Ad058881 Whitegenic
Ad73658 B-cell st
Ad720014 B-cell st
Ad720014 B-cell st
Ad75002 CpG-conta
Ad75002 CpG-conta
Ad75002 CpG-conta
Ad75002 CpG oilgo
Ad75002 CpG oilgo
Ad768226 CpG immun
Ad817223 ODN1, oll
Aca62351 Lymphocyt
Aav16894 Immunomod
Aav47684 Unmethyla
Aav77654 Immunomod
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                                             3, 2005, 01:39:41; Search time 302.286 Seconds (without alignments) 309.702 Million cell updates/sec
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                                                                                                                                                                                                                                                                                                                                      Description
        GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
                                                                                                                                 hits satisfying chosen parameters:
                                                                                                                   4390206 seqs, 2959870667 residues
                                                                                                                                                                                                                                                                                                                    SUMMARIES
                                                                                                                                                                Minimum Match 0%
Maximum Match 100%
Listing first 90 summaries
                                                                                                                                                                                                                                                                                                                                                                                   ADO58881
ADQ36558
ADQ36584
ADR20014
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ADR88228
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ACA62351
AAT16894
                                  nucleic search, using sw model
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AAZ48834
AAD02961
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ACA62324
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AAV27654
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Gapop 10.0 , Gapext 1.0
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seq length: 200000000
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Query
Match Length D
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18.4
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Perfect score:
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Minimum DB E Maximum DB E

Database

Result

Searched:

Aaa90449 CpG adjuv Aah50658 motif Aah50658 motif Aaf90669 lmmunosti Aaf98654 Doly-G im Aaf98654 Doly-G im Aaf98654 mmunosti Aaf99764 Immunosti Aaf99769 mmunosti Aaf99769 mmunosti Aaf99769 mmunosti Aaf99769 mmunosti Aag99769 mmunosti Aag99789 mmunosti Aag99789 mmunosti Aag199789 mmunosti Ab78489 Angiogene Ab78489 Angiogene Ab78489 Angiogene Ab78489 munosti Ab78690 oligonuci Ab78690 munosti Ab78690 munosti Ab78690 munosti Ab78690 munosti Ab78690 munosti Ad537265 mmunosti Ad537265 mmunosti Ad537265 mmunosti Ad537269 mmunosti Ad537269 mmunosti Ad537269 mmunosti Ad537269 mmunosti Ad59798 mmunosti Ad59798 mmunosti Ad59798 mmunosti Ad59798 mmunosti Ad59799 mmunosti Ad78909 mmunosti Ad59999 mmunosti Ad59999 mmunosti Ad78909 mmunosti Ad78909 mmunosti Ad36419 virus-lik Ad36418 virus-lik Ad44719 Mtcgenic

Ade73531 tcp gene Aag33294 Korean he Aav52539 Unmethyla Aaz41898 IL-12 sec

Adc87010 Human GPC Abt19577 Aspergill

Sat Sep

us-10-789-536-1.rng

B cell; stimulant; immune response; B cell activation; cancer; vaccine; immunostimulatory molecule; infection; therapy; 88.

B-cell stimulating oligonucleotide, ODN1585.

24-MAR-2000 (first entry)

AAZ48834;

16. .20 /*tag= a /note= "phosphorothioate backbone"

a "phosphorothioate backbone"

*tag= note=

modified base

Synthetic

modified_base

Location/Qualifiers

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AAV27641-751 represent immunostimulatory oligodecxyribonucleotides (ODNs) cof the invention. The ODNs contain at least one unmethylated CpG dinucleotide, and have the formula: 5' NIXICGX2N2 3', where at least one uncleotide separates consecutive CpGs, X1 is adenine, guanine, or thymine, X2 is cytosine or thymine, N is any nucleotide and N1+N2 is 0-26 bases with the provision that N1 and N2 does not contain a CCGG tetramer CC or more than one CGG or CGG trimer OR 5' NIXICGX3XAN 3', where at least cone nucleotide separates consecutive CpGs, X1 and X2 are selected from CpT, GpG, GpA, ApT and ApA, X3and X4 are selected from TpT or CpT, N is any nucleotide and N1+N2 is 0-26 bases with the provision that N1 and N2 does not contain a CCGG tetramer or more than one CCG or CGG trimer. The ODNs activate lymphocytes in a subject and redirect a subject's immune consecutive produce Th1 (e.g. by inducing monocytic cells and other CC cells to produce Th1 cytokines, including IL-12, IFN agamma and GM-CSF). The ODNs can be used to treat or prevent an asthmatic discret, a autoimmune diseases, in desensitisation therapy, as an artificial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        New immunostimulatory nucleic acid molecules - which contain at least one unmethylated CpG dinucleotide, used for treating e.g. tumours, infections
                                                                                                                                                                                            Immunostimulatory; oligodeoxyribonucleotide; ODN;
unmethylated CpG dinucleotide; activate; lymphocyte; immune response;
Th2; Th1; cytokine; treatment; prevention; asthma; autoimmune disease;
desensitisation therapy; artificial adjuvant; antibody generation; ss.
                                                                                                                                                     Immunostimulatory oligodeoxyribonucleotide of the invention.
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Pred. No. 2.4;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Disclosure; Page 25; 109pp; English
                                      AAV27677 Btandard; DNA; 20 BP.
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ilarity 100.0%;
Conservative 0;
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                                                                                                                   (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              or autoimmune disease.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Krieg AM, Kline JN;
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Matches 20; Conserv
                                                                                                                                                                                                                                                                                                                                 WO9818810-A1.
                                                                                                                                                                                                                                                                                                                                                                                                            30-OCT-1997;
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                                                                                                                   01-OCT-1998
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                                                                                                                                                                                                                                                                                             Synthetic.
                                                                          AAV27677;
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RESULT 1
                      AAV2767
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This sequence represents a B cell stimulatory oligomucleotide. The invention relates to compositions comprising an oligomucleotide (I) with unmertion relates to compositions comprising an antigen in a carrier. The oligomucleotides can be administered to a subject in a composition with an antigen in a carrier to enhance an immune response by enhancing B cell activation. The oligomucleotides are immunostimulatory and can be used to treat, prevent or ameliorate an immune system deficiency e.g. cancer or a viral, fungal, bacterial or parasitic infection. They can also be administered as a vaccine adjuvant to stimulate the response of a host to a vaccine. The compositions can be used to treat humans or vertebrate animals including dogs, cats, sheep pigs cows, goats, chickens, mice and monkeys. Preceding chemotherapy pigs cows, goats, chickens, mice and monkeys. Preceding chemotherapy increasing the responsiveness of malignant cells to subsequent chemotherapy. The 8.40 nucleotide size of the oligomucleotides
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Immunostimulatory oligonucleotides which enhance B cell activation useful for treating an immune system deficiency e.g. cancer.
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Pred. No. 2.4;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    20; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 2000-086224/07.
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                                                                                                                                                                                                                                                                                                                                     07-FEB-1995;
                                                                                                                                                                                                                                                                                                                                                                  15-JUL-1994;
                                                                                                                                                                                                                                                                             US6008200-A.
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Matches
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Gaps .

0; Indels

0; Mismatches

1 GGGGTCAACGTTCAGGGGGG 20 1 edecirca cerrca decede 20

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AAZ48834 standard; DNA; 20 BP.

AAZ48834 ID AAZ4 XX RESULT 2

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The invention relates to treating a subject infected with HIV comprising administering a CpG nucleic acid (e.g. an adjuvant type CpG oligonucleotide, an immunostimulatory CpG oligonucleotide or a B cell stimulatory CpG oligonucleotide). The CpG are used as gene therapy vaccines to treat a subject infected with HIV. The present sequence is a B-cell stimulatory CpG oligonucleotide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Treating a subject infected with HIV by administering a CpG nucleic acid.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Immunostimulatory oligonucleotide; unmethylated CpG dinucleotide; immunoinhibitory oligonucleotide; cellular transcription factor; viral activity; lymphocyte activation; B cell; natural killer cell; NK; immune system deficiency; viral infection; immune disease; SLE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      systemic lupus erythematosus; sepsis; cancer; immunomodulatory; immunostimulant; dermatological; antiinflammatory; cytostatic; antibacterial; virucide; ss.
                                                                      infection; gene therapy; vaccine; B-cell;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         100.0%; Score 20; DB 9; Length 20; 100.0%; Pred. No. 2.4; rive 0; Mismatches 0; Indels
                                   B-cell stimulatory, CpG containing oligonucleotide #1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Lymphocyte (B cell) activating oligonucleotide #1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 20 BP; 3 A; 3 C; 11 G; 3 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                      Steinberg AD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Disclosure; Page 10; 22pp; English.
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                                                                                                                                                                                                                                                                                                94US-00276358.
95US-00386063.
99US-00415142.
                                                                                                                                                                                                                                                          16-AUG-2001; 2001US-00931583
                                                                                                                                                                                                                                                                                                                                                                              (IOWA ) UNIV IOWA RES FOUND.
                                                                                               immunostimulatory; adjuvant
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACA62324 standard; DNA; 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 13-AUG-2003 (first entry)
22-SEP-2003 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         20; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                    Krieg AM, Klinman D,
                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 2003-512356/48.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
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                                                                                                                                                                           US2003050263-A1.
                                                                                                                                                                                                                                                                                                15-JUL-1994;
07-FEB-1995;
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                                                                                                                                                                                                                     13-MAR-2003
                                                                              CpG island;
                                                                                                                                        Synthetic
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Immunostimulatory composition useful for stimulating immune response in a subject, comprises antigen and immunostimulatory nucleic acid comprising oligonucleotides having unmethylated cytosine-guanine dinucleotides.
                                       uligodeoxyribonucleotide; ODN; cytosine-guanine dinucleotide; CpG; immunostimulatory; therapy; immune system deficiency; tumour; cancer; antibacterial; antiparasitic; fungicide; antiviral; cytostatic; leukaemia; systemic lupus erythematosus; sepsis; autoimmune disease; immunoinhibitory; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
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Pred. No. 2.4;
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                        Immunostimulatory oligodeoxyribonucleotide (ODN) 1585.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 20 BP; 3 A; 3 C; 11 G; 3 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                     /mod_base= OTHER
/note= "Phosphorothioate backbone"
                                                                                                                                                                                                                                                                                                                      16. .20
/*teg= b
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/noce= "Phosphorothioate backbone"
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                                                                                                                                                                                                                       Location/Qualifiers
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                                                                                                                                                                                                                                                                                   base= OTHER
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Matches 20; Conservative
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modified_base
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US6194388-B1 27-FEB-2001

Synthetic

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Gaps

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99US-00415142

08-OCT-1999;

ACD91359

RESULT 4 ACD91359

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US2004087534-A1.
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modified_base
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08-OCT-1999;
                                                                          15-JUL-1994;
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                         06-MAY-2004
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                                                                                                                                                                             The present invention relates to immunostimulatory oligonucleotides containing at least one unmethylated CpG dinucleotide, and immunoinhibitory oligonucleotides which are capable of interfering with the activity of viral or cellular transcription factors. The immunostimulatory oligonucleotides are useful for activating a subject's lymphocytes (B cells or natural killer (NK) cells). They are useful for treating, preventing or ameliorating an immune system deficiency. The immunoinhibitory oligonucleotides are useful for treating or preventing or ameliorating an immune system deficiency. The immunoinhibitory oligonucleotides can be useful for treating or preventing or ameliorating an immune system deficiency in a subject. The immunoinhibitory oligonucleotides can be used in a pharmaceutical composition which may be used for vaccinating a subject. The system composition which may be used for vaccinating an immune disease such as system clupus erythematosus (SIE), sepsis, or cancer. The oligonucleotides are safe to use since they do not initiate an immune
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                           reaction when administered to a subject in vivo. ACA62324-ACA62352 represent the immunomodulatory oligonucleotides of the invention. Note: The present sequence given as SEQ ID No:1 in the Sequence listing differs from that given on page 6 (ACA62351) and page 17 (ACA62352) of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               systemic lupus erythematosus; sepsis; viral infection; immunosuppressive; immunostimulating; immunomodulating; antibacterial; antiinflammatory; dermatological; virucide; phosphorothioate backbone; ss.
                                                                                                    Novel immunostimulatory oligonucleotide comprising 2-100 nucleotides and containing at least one unmethylated CpG dinucleotide, useful for activating a subject's B cells or natural killer cells.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mitogenic oligonucleotide ODN1585 used in B-cell stimulation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 20; DB 9; Length 20;
Pred. No. 2.4;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Location/Qualifiers
                                                                                                                                                          Disclosure; Page 13; 19pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GGGGTCAACGTTCAGGGGGG 20
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Best Local Similarity 100.0%;
Matches 20; Conservative 0;
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  95US-00386063
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modified_base
                         (KRIE/) KRIEG
                                                                                                                                                                                                                                                                                                                                                                                                                                  specification
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  07-FEB-1995;
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                                                    Krieg AM
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The present invention provides oligonucleotides comprising unmethylated CpG dinucleotides. The invention is useful to activate lymphocytes specifically to activate B cells and natural killer cells, for treating diseases associated with an immune system activation such as systemic lupus erythematosus, sepsis and viral infections. The invention is useful as an immunosuppressive, immunostimulating, immunomodulating, antibacterial, antiinflammatory, dermatological and virucidal agent. The present sequence is a mitogenic oligonucleotide used in the stimulation of B-cells. This sequence is used in the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     B-cell stimulation; CpG island; ss; viral transcription factor; cellular transcription factor; immunoinhibitor; immune system deficiency; systemic lupus erythematosus; sepsils; tumour; cancer; viral infection; fungal infection; bacterial infection; parasitic infection; vaccine;
                                                                                                                                                                                                                                                                                                                                                                                                                                                        New immunomodulatory oligonucleotides containing at least one unmethylated CpG dinucleotide, useful for treating diseases including
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
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/note= "Phophorothioate linkage"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        systemic lupus erythematosus and sepsis.
                                                                                                                                                                                                               US DEPT HEALTH & HUMAN SERVICES. COLEY PHARM GROUP INC.
                                                                                                                                                                                                                                                                            CPG IMMUNOPHARMACEUTICALS INC.
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/*tag= b
/note= "CpG island"
16. .20
                                                                                                                                                                                                                                                                                                                                     Steinberg AD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Claim 5; SEQ ID NO 1; 19pp; English.
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30-JUL-2003; 2003US-00631676.
                                                                                      95US-00386063.
                                                               94US-00276358
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/*tag= a
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Matches 20; Conserv
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RESULT 8

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The invention relates to a new oligonuclectide which: (a) comprises about 2-100 nuclectides and containing at least one unmethylated CpG dinuclectide; or (b) is capable of interfering with the activity of viral or cellular transcription factors and containing a consensus immunoinhibitor CpG motif represented by the formula (I): 5'GCGXnGCG3' where X a nuclectide and no '-50. Also included are an oligonuclectide of plarmaceutical composition comprising the oligonuclectide and a paramaceutical carrier, activating a subject's B cells or natural killer cells (by contacting the cells with the oligonuclectide and a pharmaceutical carrier, activating a subject by administering the composition in conjunction with a vaccine, treating a subject by administering the composition in conjunction with a pharmaceutical carrier), an immune system activation in a subject by administering a neutral oligonuclectide alone or in conjunction with a pharmaceutical carrier), an improved method for performing antisense therapy (comprising methylating CpG containing oligonuclectide probe comprising methylating CpG containing oligonuclectide probe comprising methylating CpG containing oligonuclectide prior to administration to a subject to administration to a subject to administration of subject and treating or preventing a viral infection in a subject by administration containing oligonuclectide prior to administration of subject and treating or preventing viral infection in a subject by administration containing oligonuclectide prior to administration and subject by administration to a subject to administration and subject by administration containing oligonuclectide prior to administration and subject by administration to a subject by administration and subject and treating or preventing viral infection in a subject by administration and subject and treating the immunoining viral infection in a subject process complement of a subject by administration and subject and treating the immunoining viral infection in a subject process.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         New oligonucleotides containing unmethylated CpG dinucleotide, useful for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    tumour, cancer, or viral, fungal, bacterial or parasitic intection.
Compositions comprising the oligonucleotide are useful for activating a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  treating, preventing or ameliorating an immune system deficiency, e.g. tumor, cancer, or viral, fungal, bacterial or parasitic infection.
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                                                  /note = "Phophorothioate linkage"
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/*tag= c
/mod_base= OTHER
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95US-00386063.
99US-00415142.
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                                                                                                                                                                                                                                                                                                                                                                     (KLIN/) KLINMAN D.
(STEI/) STEINBERG A D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Klinman D,
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                                                                                                    US2004143112-A1
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07-FEB-1995;
08-OCT-1999;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Krieg AM,
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Gaps ö Score 20; DB 12; Length 20; Pred. No. 2.4; Indels Sequence 20 BP; 3 A; 3 C; 11 G; 3 T; 0 U; 0 Other; .; 0 0; Mismatches 100.0%; Local Similarity 100. Query Match Best Loc Matches

1 GGGGTCAACGTTCAGGGGG 20

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Gaps

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100.0%; Score 20; DB 12; Length 20; 100.0%; Pred. No. 2.4; Sive 0; Mismatches 0; Indels

Query Match 100. Best Local Similarity 100. Matches 20; Conservative

Sequence 20 BP; 3 A; 3 C; 11 G; 3 T; 0 U; 0 Other;

The invention relates to oligonucleotides containing at least one unmethylated CpG dinucleotide. The invention relates to an oligonucleotide delivery complex comprising an oligonucleotide of the invention and a targeting means, a method of activating a subject's B cells or natural killer cells by contacting the cells with an coligonucleotide, a method of treating, preventing or ameliorating an immune system deficiency in a subject, vaccinating a subject by administering in a subject, vaccinating a subject by administering a neutral oligonucleotide alone or in a subject by administering a neutral oligonucleotide alone or in conjunction with a pharmaceutical carrier, and a method of performing conjunction with a pharmaceutical carrier, and a method of performing antisense therapy comprising methylating CpG containing oligonucleotides or conjunction with a pharmaceutical carrier. The oligonucleotides are useful for treating diseases associated with immune system activation, such as systemic lupus erythematosus and sepsis. Compositions comprising coligonucleotides of the invention are useful for activating a subject in an immune system deficiency or for vaccinating a subject. The invention are useful for calls or neutral killer cells, for treating or ameliorating a subject. The immunoinhibitory oligonucleotides are useful for treating or preventing a mindicipal contraint and the pharmaceutides are useful for treating or preventing a mindicipal contraint and the pharmaceutides are useful for treating or preventing a mindicipal contraint and the pharmaceutides are useful for curvating a subject. The virtual contraint and the pharmaceutides are useful for curvating a subject. The virtual contraint and the pharmaceutides are useful for curvating a subject. The virtual contraint and the pharmaceutides are useful for curvating and pharmaceutides are useful for curvating and pharmaceutides of the pharmaceutides are useful for curvating and pharmaceutides of the pharmaceutides are useful for curvating or provincipal contra New oligonuclectides containing unmethylated CpG dinuclectide, useful for activating a subject's B cells or natural killer cells, as vaccine, or for treating, preventing or ameliorating an immune system deficiency. immunoinhibitory oligonucleotides are useful for treating or preventing a viral infection in a subject. The oligonucleotides may also be used in conjunction with a vaccine to boost a subject's immune system to effect a better response from the vaccine, or for increasing the responsiveness of This sequence represents an immune system deficiency; immune system activation; systemic lupus erythematosus; sepsis; viral infection; chemotherapy; cytostatic; virucide; fungicide; antibacterial; antiparasitic; immunosuppressive; antiinflammatory; dermatological; ss. Unmethylated CpG dinucleotide; B cell; natural killer cell; malignant cells to subsequent chemotherapy. Thi unmethylated CpG dinucleotide of the invention. (COLE-) COLEY PHARM GROUP INC. (USSH) US DEPT HEALTH & HUMAN SERVICES Steinberg AD; Claim 5; SEQ ID NO 1; 14pp; English Unmethylated CpG dinucleotide #1. ADQ36584 standard; DNA; 20 BP. 26-FEB-2004; 2004US-00789051 94US-00276358 95US-00386063 08-OCT-1999; 99US-00415142 21-OCT-2003; 2003US-00690495 07-OCT-2004 (first entry) Krieg AM, Klinman D, (IOWA) UNIV IOWA RES WPI; 2004-552569/53. US2004142469-A1. 07-FEB-1995; 15-JUL-1994; 22-JUL-2004. Synthetic. ADQ36584; ADQ36584

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WPI; 2004-624264/60.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      New oligonucleotide comprises at least one unmethylated CpG dinucleotide, useful for stimulating an immune response or for treating diseases associated with immune system activation, e.g. systemic lupus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               This invention describes novel oligonucleotides capable of interfering with the activity of viral or cellular transcription factors and containing a consensus immunoinhibitory CpG motif having the formula: 5'GCGMGCG3', where X is a mucleotide and n is 0-50 and a phosphorothioate backbone modification. The invention also describes an oligonucleotide delivery complex comprising the oligonucleotide and a targeting means e.g. a pharmaceutical carrier. The oligonucleotide and a targeting means e.g. a pharmaceutical carrier. The oligonucleotides are used for activating a abbject's B cells or natural killer cells; treating, preventing or ameliorating an immune system deficiency in a subject; treating a disease associated with an immune system activation in a subject (systemic lupus erythematosus or sepsis); performing antisense therapy comprising methylating CpG
                                                                                                                                                                                      phosphorothioate backbone; B cell activation; anatural Killer cell activation; immune system deficiency; systemic lupus erythematosus; antisense; methylation; antiinflammatory; dermatological; immunosuppressive; virucide; ss;
                                                                                                                                                                            cellular transcription factor; immunoinhibitory; CpG;
                                                                                                                                                                                                                                                                                                                                                                  /note= "phosphorothioate linkage"
                                                                                                                                                                                                                                                                                                                     /note= "phosphorothioate linkage"
16. .20
                                                                                                                                                       B-cell stimulating oligonucleotide ODN 1585.
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US SEC HEALTH AND HUMAN SERVICES.
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                               GGGGTCAACGTTCAGGGGGG 20
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07-FEB-1995; 95US-00386063.
08-OCT-1999; 99US-00415142.
21-OCT-2003; 2003US-00690495.
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modified_base
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containing oligonucleotides prior to administration to a subject; an improved method for in vivo diagnoses using oligonucleotide probes comprising methylating CpG containing oligonucleotides prior to administration to a subject; and treating or preventing a viral infection in a subject. The targeting means is selected from cholesterol, virosome, liposome, lipid, or a target cell specific binding agent. The oligonucleotides described in the invention have antinflammatory, dermatcological, immunosuppressive and virucide activity. ADR20014.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  se; immunostimulatory oligonucleotide; CpG dinucleotide;
transcription factor; immunoinhibitory CpG motif; B cell;
natural killer cell; immune system deficiency; antisense therapy;
viral infection; immune response; systemic lupus erythematosus; sepsis;
                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
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                                                                                                                                                                                                                                                                                                                          Sequence 20 BP; 3 A; 3 C; 11 G; 3 T; 0 U; 0 Other;
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/note= "Phosphorothioate linkage"
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/note= "Phosphorothioate linkage"
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(COLE-) COLEY PHARM GROUP INC.
(USSH ) US SEC HEALTH AND HUMAN SERVICES.
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/note= "CpG dinucleotide"
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08-OCT-1999; 99US-00415142.
21-OCT-2003; 2003US-00690495.
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nes 20; Conservative
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The invention relates to an oligonucleotide comprising 2-100 nucleotides and containing at least one unmethylated CpG dinucleotide. The and containing at least one unmethylated CpG dinucleotide is capable of interfering with the activity of viral or cellular transcription factors and containing a consensus immunoinhibitory CpG motif having the formula: 5'GCGAGGG3', where X is a nucleotide and n is 0-50. Also included are an oligonucleotide delivery complex (compirating the Oligonucleotide above and a targeting means), a pharmaceutical carrier), activating a subject's B cells, activating a subject's natural killer cells, treating (preventing or ameliorating) and subject's natural killer cells, treating (preventing or ameliorating) and comparated with an immune system activation in a subject, vaccinating or performing antisense therapy (comprising methylating CpG containing coligonucleotides prior to administration to a subject, in vio diagnoses coligonucleotides prior to administration to a subject and treating or preventing a viral infection in a subject. The oligonucleotide is useful for treating diseases associated with immune system activation including systemic lupus erythematosus or sepsis, or for treating, preventing, or ameliocating an immune system deficiency in a subject. The associated with immune system activation including systemic lupus erythematosus or sepsis, or for treating, preventing, or ameliocating as a minumune system deficiency in a subject. The cating diseases associated with immune system activation including coligonucleotide is also useful for treating or preventing viral infection. It is also useful as a vaccine. The present sequence is an immune coligonucleotide of the invention.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
useful for stimulating an immune response or for treating diseases associated with immune system activation, e.g. systemic lupus erythematosus or sepsis.
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/note== "Phosphorothioate backbone"
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/mod_base= OTHER
/note= "Phosphorothioate backbone"
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100.0%; Pred. No. ...
0; Mismatches
                                                                                      Claim 5; SEQ ID NO 1; 19pp; English.
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Best Local Similarity 100.
Matches 20; Conservative
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The present invention provides oligonucleotides comprising immunomodulatory unmethylated CpG dinucleotide. The invention is useful for treating, preventing and ameliorating immune system deficiencies such as systemic lupus erythematosus and sepais, tumour, cancer, viral, bacterial and fungal infections. The invention acts as an cytostatic, virucidal, antibacterial, fungicidal, antibinflammatory, dermatological and immunosuppressive agent. The invention is also useful in the production of vaccines and in gene therapy. The present sequence is a mitogenic CpG oligonucleotide used in B-cell activation. Note: This sequence is stated to be SEQ ID No: 1 in the sequence listing. However, this sequence differs from the sequence designated as SEQ ID No: 1 in the
                                                                                                                                                                                                                                      New oligonucleotide comprises at least one unmethylated CpG dinucleotide, useful for treating, preventing, or ameliorating an immune system deficiency or a tumor, cancer, viral, bacterial, or fungal infection.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Immune response; immune system deficiency; tumour; cancer;
viral infection; systemic lupus erythematosus; sepsis; vaccine;
gene therapy; bacterial infection; fungal infection; phosphorothloate;
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Pred. No. 2.4;
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/note= "Phosphorothioate nucleotides"
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/note= "Phosphorothioate nucleotides"
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                                                                                                                  (IOWA ) UNIV IOWA RES FOUND.
(COLE-) COLEY PHARM GROUP INC.
(USSH ) US DEPT HEALTH & HUMAN SERVICES.
                                                                                                                                                                                                                                                                                                      Disclosure, SEQ ID NO 1, 20pp; English
                                                                                                                                                                             Steinberg AD;
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                                      15-JUL-1994; 94US-00276358.
07-FEB-1995; 95US-00386063.
08-OCT-1999; 99US-00415142.
21-OCT-2003; 2003US-00690495.
           30-JAN-2004; 2004US-00769626
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modified_base
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 US2004171150-A1
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                       02-SEP-2004
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                                                                                                                                                                                                                                                                             The invention provides novel oligonucleotides containing unmethylated CpG dinucleotides and therapeutic utilities based on their ability to estimulate an immune response in a subject. Oligonucleotides of the invention are useful for treating, preventing or ameliorating an immune system deficiency or a tumour, cancer, viral, bacterial or fungal infection. They are useful for treating diseases associated with immune system activation including systemic lupus erythematosus or sepsis. They are also useful as vaccines to boost subject's immune system. The invention is also useful in gene therapy. The present sequence is a CpG oligonucleotide used to stimulate B-cells. Note: This sequence is stated to be the same as that shown as SEQ ID NO: 1 in page 18 of the specification. However these sequences differ.
                                                                                                                                                                                                                New oligonucleotide comprises at least one unmethylated CpG dinucleotide,
                                                                                                                                                                                                                          useful for treating, preventing, or ameliorating an immune system deficiency or a tumor, cancer, viral, bacterial, or fungal infection.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CpG immunomodulatory oligo, ODN 1585 used in B cell stimulation.
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Pred. No. 2.4;
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/mod_base= Phosphorothioate backbone
15. _20
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/mod_base= Phosphorothioate backbone
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                                                                                                                                 (COLE-) COLEY PHARM GROUP INC.
(USSH ) US DEPT HEALTH & HUMAN SERVICES.
                                                                                                                                                                   Steinberg AD;
                                                                                                                                                                                                                                                            Claim 5; SEQ ID NO 1; 19pp; English
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                                                                15-JUL-1994; 94US-00276358.
07-FEB-1995; 95US-00386063.
08-OCT-1999; 99US-00415142.
21-OCT-2003; 2003US-00690495.
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                                           26-FEB-2004; 2004US-00789353
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Best Local Similarity
US2004162262-A1
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                      19-AUG-2004
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 The present invention relates to an oligonucleotide containing at least
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 20 BP; 3 A; 3 C; 11 G; 3 T; 0 U; 0 Other;
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/note= "Phosphorothioate backbone"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /note= "Phosphorothioate backbone"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ODN1, oligonucleotide used to stimulate B cells.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0; Mismatches
                                                                                                                                                                                                                                                       (COLE-) COLEY PHARM GROUP INC.
(USSH ) US DEPT HEALTH & HUMAN SERVICES.
                                                                                                                                                                                                                                                                                                                                                        Steinberg AD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Claim 5; SEQ ID NO 1; 19pp; English.
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/*tag= b
/mod_base= OTHER
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                                                            15-JUL-1994; 94US-00276358.
07-FEB-1995; 95US-00386663.
07-CCT-1999; 99US-00415142.
21-OCT-2003; 2003US-00690495.
26-FEB-2004; 2004US-00787737.
                                                                                                                                                                                                                            (IOWA ) UNIV IOWA RES FOUND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ADS17223 standard; DNA; 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /*tag= a
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The present invention relates to immunostimulatory oligonucleotides containing at least one unmethylated CpG dinucleotide, and containing at least one unmethylated CpG dinucleotide, and containinibilotry oligonucleotides which are capable of interfering with the activity of viral or cellular transcription factors. The che activity of viral or natural killer (NK) cells). They are useful for reating or matural killer (NK) cells). They are useful for treating or manipolations of manual and manue system deficiency. The community preventing or ameliorating an immune system deficiency. The community of manipolating or manipolated are useful for treating or preventing or preventing or ameliorating an immune system deficiency in a subject. The composition which may be used for vaccinating an immune disease such as systemic lupus erythematosus (SLE), sepais, or cancer. The oligonucleotides may be used for treating an immune disease such as systemic lupus erythematosus (SLE), sepais, or cancer. The composition when administered to a subject in vivo. ACASCASSIS creation when administered to a subject in vivo. ACASCASSIS creation when administered to a subject in vivo. ACASCASSIS creation the immune disease such as second in the present sequence given as SEQ ID No:1 on page of the invention. Note:

The present sequence listing (ACDG2324) and on page 17 (ACASCASSIS) of the
                                                                                                                                                                                                                                                                                                                                                                                                           Novel immunostimulatory oligonucleotide comprising 2-100 nucleotides and containing at least one unmethylated CpG dinucleotide, useful for activating a subject's B cells or natural killer cells.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Immunomodulatory oligonucleotide contg. unmethylated C-G dinucleotide.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                  *tag= c note= "This base given as "O" (not defined) in the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 19; DB 9; Length 20; Pred. No. 7.7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 20 BP; 3 A; 3 C; 10 G; 3 T; 0 U; 1 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Disclosure; Page 6; 19pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 GGGGTCAACGTTCAGGGGG 20
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                                                             specification"
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                                           /note=
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                                                                                                      US2003026782-A1.
                                                                                                                                                                                                                                                                                    (KRIE/) KRIEG
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misc_feature
                                                                                                                                                                                             08-OCT-1999;
                                                                                                                                                                                                                                         07-FEB-1995;
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                                                                                                                                                    06-FEB-2003
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                                                                                                                                                                                                                                                                                                                             Krieg AM;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The invention relates to immunomodulatory oligonucleotides containing an unmethylated CpG dinucleotide. The oligonucleotide of the invention is useful in preparing a composition for treating a disease associated with an immune system activation, e.g. systemic lupus erythematosus, sepsis or viral infection. It is also useful to prepare vaccine. The present sequence is an immunomodulatory oligonucleotide used to stimulate B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Immunostimulatory oligonucleotide; unmethylated CpG dinucleotide; immunoinhibitory oligonucleotide; cellular transcription factor; viral activity; lymphocyte activation; B cell; natural killer cell; NK; immune system deficiency; viral infection; immune disease; SLB; systemic lupus erythematosus; sepsis; cancer; immunomodulatory; immunostimulant; dermatological; antiinflammatory; cytostatic; antibacterial; virucide; phosphorothioate; ss.
                                                                                                                                                                                                                                                                                                                                                                                           New oligonucleotide comprising 2-100 nucleotides and containing an unmethylated CpG dinucleotide, useful in preparing a composition for treating a disease, e.g., systemic lupus erythematosus, sepsis or viral
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
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/note= "Phosphorothioate internucleotide linkages"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 20; DB 13; Length 20;
Pred. No. 2.4;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 20 BP; 3 A; 3 C; 11 G; 3 T; 0 U; 0 Other;
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                                                                                                                                                                                                                                             (COLE-) COLEY PHARM GROUP INC.
(USSH ) US DEPT HEALTH & HUMAN SERVICES.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Claim 5; SEQ ID NO 1; 19pp; English.
                                                                                                                                                                                                                                                                                                           Steinberg AD;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             20
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 GGGTCAACGTTCAGGGGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACA62351 standard; DNA; 20 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity 100.0%;
Matches 20; Conservative 0
                                                                                                           15-JUL-1994; 94US-00276358.
07-FEB-1995; 95US-00346063.
08-OCT-1999; 99US-00415142.
21-OCT-2003; 2003US-00690495.
                                                                  26-FEB-2004; 2004US-00788199
                                                                                                                                                                                                                         (IOWA ) UNIV IOWA RES FOUND
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*tag= a
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                                                                                                                                                                                                                                                                                                           Krieg AM, Klinman D,
                                                                                                                                                                                                                                                                                                                                                         WPI; 2004-667684/65
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modified_base
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                         16-SEP-2004
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                      infection
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This sequence represents an unmethylated CpG dinucleotide, and can be used in the method of the invention. The method is for treating a subject used in the method of thaving an acute decrement in air flow, comprising administering a nucleic acids enquence containing at least one compression and immune response in a subject by activating natural killer cells (NK) or redirecting a subject is immune response from a Th2 co a Th1 response by inducing monocytic and other cells to produce Th1 cytokines. They can be used to treat pulmonary disorders having an immune component, such as asthma or environmentally induced airway disease. They can also be used to treat diseases associated with Gramopositive bacterial infections or endotoxaemia including bacterial companies. Or sepsitive bacterial infections or endotoxaemia including bacterial and liver cirrhosis, Gram-negative pheumonia, Gram-negative abdominal abscess, haemorrhagic shock, disseminated intravascular coagulation, or an inflammatory response to lipopolysaccharide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          New immunostimulatory nucleic acid molecules - which contain at least one unmethylated CpG dinucleotide, used for treating e.g. tumours, infections or autoimmune disease.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAV27641-751 represent immunostimulatory oligodeoxyribonucleotides (ODNs) of the invention. The ODNs contain at least one unmethylated CpG dinucleotide, and have the formula: 5' NIXICGXDR3', where at least one nucleotide separates consecutive (DGs, X1 is adenine, guanine, or thymine, X2 is cytosine or thymine, N is any nucleotide and NI+N2 is 0-26 bases with the provision that N1 and N2 does not contain a CCGG tetramer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Immunostimulatory; oligodeoxyribonucleotide; ODN; unmethylated (pp dinucleotide; activate; lymphocyte; immune response; 17h2; Th1; cytokine; treatment; prevention; asthma; autoimmune disease; desensitisation therapy; artificial adjuvant; antibody generation; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Immunostimulatory oligodeoxyribonucleotide of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                            DB 2; Length 20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                   Sequence 20 BP; 3 A; 2 C; 12 G; 3 T; 0 U; 0 Other;
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                                                                                                                                                                                                                                                                                                                                                                                                                          Pred. No. 15;
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                            92.0%; Score 18.4; 95.0%; Pred. No. 15
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Claim 35; Page 27; 65pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 GGGGTCAACGTTCAGGGGG 20
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                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
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                                                                                                                                                                                                                                                                                                                                                                     AAT16894-T16898 are immunomodulatory oligonucleotides contg. at least one unmethylated C-G dinucleotide. The oligonucleotides can be used to activate B cells and natural killer cells. They can be used for treating, preventing or ameliorating an immune system deficiency, e.g. a tumour, cancer or a viral, fungal, bacterial or parasitic infection. They are also useful in stimulating a subject's response to a vaccine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Unmethylated CpG dinucleotide, immune response; bacterial meningitis; natural killer cell activation; NK cell; Th2 response; neonatal sepsis; pulmonary disorder; asthma; environmentally induced airway disease; bacterial infection; endotoxaemia; therapy; cystic fibrosis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Use of nucleic acids containing an unmethylated CpG - for treating a subject having or at risk of having an acute decrement in air flow or inhibiting an inflammatory response.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                      Immunomodulatory oligo:nucleotide(s) contg. an un-methylated CpG on nucleotide - used for stimulating activity or when methylated for
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 18.4; DB 2; Length 20; Pred. No. 15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 20 BP; 3 A; 2 C; 12 G; 3 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match 92.0%; Score 18.4; D
Best Local Similarity 95.0%; Pred. No. 15;
Matches 19; Conservative 0; Mismatches
                                                                                                                                       (IOWA ) UNIV IOWA STATE RES FOUND INC.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GGGGTCAACGTTGAGGGGGG 20
                                                                                                                                                                                                                                                                                                                                   Claim 5; Page 39; 45pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    inflammatory bowel disease; ss
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                                                          95WO-US001570
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                                                                                                                                                                                                                                                                                               inhibitory activity.
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                                                            07-FEB-1995;
                                                                                                 15-JUL-1994;
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                      01-FEB-1996
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or more than one CCG or CGG trimer OR 5' NXIX2CGX3X4N 3', where at least one nucleotide separates consecutive CpGs, X1 and X2 are selected from GpT, GpG, GpA, ApT and ApA, X3and X4 are selected from TpT or CpT, N is any nucleotide and N1+N2 is 0-26 bases with the provision that N1 and N2 does not contain a CCGG tetramer or more than one CCG or CGG trimer. The ODNs activate lymphocytes in a subject and redirect a subject's immune response from a Th2 to a Th1 (e.g. by inducing monocytic cells and other cells to produce Th1 cytokines, including IL-12, IFN-gamma and GM-CSF). The ODNs can be used to treat or prevent an asthmatic disorder, autoimmune diseases, in desensitisation therapy, as an artificial
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CpG-N motif; immunostimulation; antigen; CpG-S motif; immunisation; ODN, viral antigen; bacterial antigen; parasite; therapeutic; growth factor; toxin; tumour suppressor; cytokine; apoptotic protein; interferon; hormone; clotting factor; ligand; receptor; oligodeoxynucleotide; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Use of neutralising CpG and stimulating CpG motifs in DNA vectors – foenhancing the immunostimulatory effect of an antigen or enhancing the
                                                                                                                                                                                                                                                                                                     Gaps
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Pred. No. 15;
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                                                                                                                                                                                                                                                                                                                                     1 GGGGTCAACGTTCAGGGGGG 20
                                                                                                                                                                                                                                                                                                                                                            Schorr J,
                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAV74238 standard; DNA; 20 BP.
                                                                                                                                                                                                                                                                   92.0%;
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Best Local Similarity 95.0
Matches 19; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAV74238;
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AAV74238
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hepatitis B virus (HBV), bacterial antigens or an antigen derived from a parasite. They can also be used for expression of a therapeutic obyoperide, e.g. growth factors, toxins, tumour suppressors, cytokines, apoptotic proteins, interferons, hormones, clotting factors, ligands and receptors. (Updated on 20-MAR-2003 to correct PA field.)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CpG-N motif; immunostimulation; antigen; CpG-S motif; immunisation; ODN viral antigen; bacterial antigen; parasite; therapeutic; growth factor; toxin; tumour suppressor; cytokine; apoptotic protein; interferon; hormone; clotting factor; ligand; receptor; oligodeoxynucleotide; ss.
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                                                                                                                                          DB 2; Length 20;
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                                                                                                        Sequence 20 BP; 3 A; 2 C; 12 G; 3 T; 0 U; 0 Other;
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(IOWA ) UNIV IOWA RES FOUND.
                                                                                                                                          Score 18.4; DE
Pred. No. 15;
0; Mismatches
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                                                                                                                                                                                                               1 GGGGTCAACGTTCAGGGGGG
                                                                                                                                                                                                                                                                                                                                  AAV74245 standard; DNA; 20 BP
                                                                                                                                            92.0%;
95.0%;
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                                                                                                                                                                                                                                                                                                                                                                                                                     (first entry)
                                                                                                                                                                             Conservative
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                                                                                                                                                        Local Similarity
hes 19; Conserv
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20-MAY-1997;
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15-MAR-1999
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                                                                                                                                             Query Match
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Sequence 20 BP; 3 A; 2 C; 12 G; 3 T; 0 U; 0 Other;

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The invention relates to a microdroplet emulsion (microemulsion) with an adsorbent surface, and which comprises a metabolisable oil and an emborheit surface, and which comprises a metabolisable oil and an comprising agent (a detergent). It also relates to a composition comprising the microemulsion and a microparticle with an adsorbent surface, where the microparticle comprises a polymer selected from a polyghdroxy butyric acid, a polycaprolactione, a polyorthoester, a polyanhydride, and a polycyanoacrylate, and a second detergent. The surface of the microparticles efficiently adsorb biologically active macromolecules such as DNA, polypeptides, antigens, hormones, pharmaceutericals, enzymes, mediators of transcription or translation, metabolic intermediates and adjuvants. Additionally, a second biologically active molecule may be encapsulated within the microemulsion can be used in methods of immunising a host animal, particularly a human, against a viral, bacterial or the microemulsions (having the appropriate antigens adsorbed) may be particularly used as vaccines for hepatitis C virus (HBV), hepatitis B virus (HBV), herpes simplex virus (HSV), hepatitis B virus (HBV), cytomegalovirus (CMV), influenza virus, and rabies virus; the
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Microemulsion having an adsorbent surface comprising a microdroplet emulsion consisting of a metabolizable oil and an emulsifying agent which is a detergent, useful as a vaccine to treat bacterial, viral, and
                                                                                                                                                                                                                                                                                                                                                         CpG oligonucleotide; CpG motif; adjuvant; microdroplet emulsion; microemulsion, adsorbent micropatticle; vaccine; PH immune response; viral infection; bacterial infection; parasitic infection; HCV; HBV; hepatitis C virus; hepatitis B virus; herpes simplex virus; HSV; HBV; human immunodeficiency virus; cytomegalovirus; CWV; influenza virus; rables virus; cholera; diphtharia; tetanus; pertussis; Helicobacter pylori; Haemophilus influenzae; malaria; ss.
                                          Gaps
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   Length 20;
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                                      1; Indels
   DB 2;
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 Score 18.4; DE
Pred. No. 15;
0; Mismatches
                                                                                                                                                                                                                                                                                                                        CpG adjuvant oligonucleotide, SEQ ID NO:3.
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                                                                             GGGGTCAACGTTCAGGGGGG 20
                                                                                                              GGGGTCAACGTTGAGGGGGG 20
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                                                                                                                                                                                                             BP
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99US-0161997P.
   92.0%;
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                                                                                                                                                                                                             AAA90449 standard; DNA; 20
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Query Match 92.0
Best Local Similarity 95.0
Matches 19; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             parasitic infection.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Synthetic.
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bacteria which cause cholera, diphtheria, tetanus and pertussis; telalicobacter pylori and Haemophilus influenzae; and malaria-causaing parasites. Sequences AAA90447.490467 represent Thl lymphocyte stimulating oligonucleotides containing at least one CpG motif which are claimed for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Immune system stimulator; CpG motif; CpG receptor; CpG-R; antibacterial; immune response; vaccine adjuvant; tumour immunotherapy; allorsy; anti-inflammatory; cystic fibrosis; sepsis; heart disease; chlamydia; inflammatory bowel disease; arthritis; multiple sclerosis; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Novel CpG receptor and nucleic acid molecule encoding the receptor, for modulating immune response and for identifying compounds of therapeutic use which bind and/or modulate the activity of the receptor.
                                                                                                                                                                                     Gaps
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/note= "Phosphorothioate internucleoside linkages"
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                                                                                                                                               DB 3; Length 20;
                                                                                                                                                                                   1; Indels
                                                                       use as adjuvants in the compositions of the invention
                                                                                                           Sequence 20 BP; 3 A; 2 C; 12 G; 3 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                             CpG motif containing oligonucleotide SEQ ID #5.
                                                                                                                                               Score 18.4; DB;
Pred. No. 15;
0; Mismatches
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                                                                                                                                                                                                                     1 GGGGTCAACGTTCAGGGGG 20
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99US-0167389P.
                                                                                                                                               92.0%;
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                                                                                                                                    Query Match
Best Local Similarity 95.09
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modified_base
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                                                                                                                                                                                                                                                                                                               RESULT 22
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The present invention describes methods for inducing interleukin 6 (IL-6), interferon-gamma (IFN-gamma) or IL-12, or for stimulating natural killer cell 1ytic activity. The methods comprise administering to the subject or exposing a natural killer cell to an immunosifunlatory nucleic acid. Also described are: (1) inducing IL-6 in a subject comprising administering to the subject to induce IL-6 in the subject the immunosifunlatory nucleic acid to simulating natural killer cell lytic activity comprising exposing a natural killer cell to the immunosifunlatory nucleic acid to stimulating ratural killer cell lytic activity; (3) inducing interferon-gamma in a subject to treat an immune system deficiency comprising administering to the subject to induce interferon-gamma production, the immunosifunlatory nucleic acid. The methods are useful for inducing IL-12 in a subject comprising administering to the subject to inducing IL-12 in a subject comprising administering to the subject the immunostimulatory nucleic acid. The methods are useful for inducing IL-6,
infection), tumour immunotherapy, allergy treatment, (e.g. suppressing IgE in human PBMC, shifting from Th2 to Th1) and as anti-inflammatory agents (e.g. for use in cystic fibrosis, sepsis, heart disease, chlamydis, inflammatory bowel disease, arthritis and multiple sclerosis). The present sequence represents a CpG motif containing oligonucleotide used in examples demonstrating that CpG oligonucleotides can activate the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Immunostimulatory; inducing; natural killer cell; lytic activity;
unmethylated CpG dinucleotide; immune response; B cell proliferation;
Thl; immune activation; interleukin 6; IL-6; interferon gamma; IFN-gamma;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Methods for inducing II-6, interferon-gamma or II-12, or stimulating natural killer cell lytic activity in a human, comprise administering the subject or exposing a natural killer cell to immunostimulatory
                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Immune response modulating related oligonucleotide SEQ ID NO:90.
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                                                                                                                                                                                                            20;
                                                                                                                                                                                                                                                    1; Indels
                                                                                                                                                                                                              DB 4; Length
                                                                                                                                                                  Sequence 20 BP; 3 A; 2 C; 12 G; 3 T; 0 U; 0 Other;
                                                                                                                                                                                                        92.0%; Score 18.4; L
Local Similarity 95.0%; Pred. No. 15;
Nes 19; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (COLE-) UNIV IOWA RES FOUND.
(COLE-) COLEY PHARM GROUP INC.
(USSH ) US DEPT HEALTH & HUMAN SERVICES.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Disclosure, Col 91, 74pp; English.
                                                                                                                                                                                                                                                                                            1 GGGGTCAACGTTCAGGGGG 20
                                                                                                                                                                                                                                                                                                                                  1 eccrevacerreaceces 20
                                                                                                                                                                                                                                                                                                                                                                                                                                          AAH50658 standard; DNA; 20 BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          96US-00738652.
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                                                                                                                                MAPK pathways and NF-kappaB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Kline JN;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WPI; 2001-380456/40.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           nucleic acids
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   cytokine; ss
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            30-OCT-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          22-AUG-2001
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Matches
                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 23
                                                                                                                                                                                                                                                                                                                                                                                                                       AAH50658
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The present invention relates to a composition comprising an isolated immunostimulatory nucleic acid which comprises unmethylated oytosine-granine (CpG) dinucleotides and an antigen in a carrier. The present sequence is an oligonucleotide, which was used in the present invention. The immunostimulatory nucleic acids are useful for ameliorating an immune system deficiency (the presence of tumour, cancer or infectious agent) in a subject. The immunostimulatory nucleic acids are also useful for cesponse to contact with a particular allergen. The immunostimulatory nucleic acids are also useful for vaccination and for treating leukaemia in a subject on administration prior to or in conjunction with a chemotherapy, so that the subject or leukaemia cells are more sensitive to chemotherapy, the compositions are useful for inducing an antigen chemotherapy. The compositions are useful for inducing an antigen specific immune response in the subject. The compositions can be also used to treat or prevent the symptoms of asthma
                                                                                                                                                                         ö
interferon-gamma or IL-12, or stimulating natural killer cell lytic activity in a subject, particularly a human. The methods are particularly useful for modulating an immune response. AAH50571 to AAH50671 represent oligonucleotide sequences used in the exemplification of the present
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Compositions comprising immunostimulatory molecules which comprise unmethylated CpG dinucleotides useful for ameliorating immune system deficiency, treating leukemia and desensitizing subject against allergic
                                                                                                                                                                                                                                                                                                                                                                                                                                             Immunostimulant; antiallergic; cytostatic; antiasthmatic; vaccine;
gene therapy; CpG; immune system deficiency; tumour; cancer; infection;
leukaemia; ss.
                                                                                                                                                                         Gaps
                                                                                                                                                                         ö
                                                                                                                                      Length 20;
                                                                                                                                                                         1; Indels
                                                                                                     Sequence 20 BP; 3 A; 2 C; 12 G; 3 T; 0 U; 0 Other;
                                                                                                                                        DB 4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Steinberg AD;
                                                                                                                                        Score 18.4; DE
Pred. No. 15;
0; Mismatches
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                                                                                                                                                                         0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (COLE-) COLEY PHARM GROUP INC. (USSH ) US DEPT HEALTH & HUMAN
                                                                                                                                                                                                          1 GGGGTCAACGTTCAGGGGGG
                                                                                                                                                                                                                                                                                                                                 AAH19262 standard; DNA; 20 BP
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95US-00386063.
                                                                                                                                         92.0%;
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                                                                                                                                                                                                                                                                                                                                                                                                 (first entry)
                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                Oligonucleotide 1585.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI; 2001-280761/29
                                                                                                                                                      Local Similarity
nes 19; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US6207646-B1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       30-OCT-1996;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      27-MAR-2001.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Synthetic.
                                                                            invention
                                                                                                                                                                                                                                                                                                                                                                AAH19262;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 response.
                                                                                                                                         Query Match
                                                                                                                                                                            Matches
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Query Match

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Matches

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The present invention describes an improvement to a method requiring the administration of interferon alpha (IFN-alpha), involving administering an immunostimulatory nucleic acid (ISNA). The sequences of a number such nucleic acids are also provided. These may comprise oligonucleotide with phosphorothioate backbones, palindromes, or G-rich sequences. The sequences of the invention are useful in the treatment of proliferative diseases, such as cancers, and viral infections. The present sequence is an example of an immunostimulatory oligonucleotide
                                                                   Immunostimulatory nucleic acid; ISNA; human; interferon alpha; IFN-alpha; viral infection; phosphorothioate backbone; palindrome; cancer; ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CpG oligodeoxynucleotide; unmethylated; antigen-presenting cell; immunogenic; cytokine release; natural killer cell; NK cell activation; cell-mediated immune response; T-cell response; humoral response;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Improving the efficacy of treatments involving the administration of interferon-alpha by co-administering an isolated immunostimulatory nucleic acid.
                                 Human IFN-alpha immunostimulatory nucleic acid SEQ ID NO: 1.
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                                                                                                                                                                                                         /mod_base= OTHER
/note= "phosphorothioate linkage"
15. .19
                                                                                                                                                                                                                                                                                                      /note= "phosphorothioate linkage'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     92.0%; Score 18.4; I 95.0%; Pred. No. 15; ive 0; Mismatches
                                                                                                                                                            Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Hartmann G, Bratzler RL, Krieg A;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Claim 19; Page 73; 168pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 GGGGTCAACGTTCAGGGGG 20
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/*tag= a
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11-JUN-2001 (first entry)
                                                                                                                                                                                                                                                                   /*tag= b
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local Similarity
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                                                                                                                                                                             modified base
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Immunogenic
                                                                                                                                                                                                                                                                                                                                                                               05-APR-2001
                                                                                                                           Synthetic.
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Matches
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                                                                                                                                                              Key
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              The present invention describes an improvement to a method requiring the administration of interferon alpha (IFN-alpha), involving administrating an immunostimulatory nucleic acid (ISNA). The sequences of a number of such nucleic acids are also provided. These may comprise oligonucleoties with phosphorothioate backbones, palindromes, or G-rich sequences. The sequences of the invention are useful in the treatment of proliferative diseases, such as cancers, and viral infections. The present sequence is an example of an immunostimulatory oligonucleotide
                                                                                                                                                                                                                                                                                                                                                                             Immunostimulatory nucleic acid; ISNA; human; interferon alpha; IFN-alpha; viral infection; phosphorothioate backbone; palindrome; cancer; ds.
                                                                        Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Improving the efficacy of treatments involving the administration of interferon-alpha by co-administering an isolated immunostimulatory
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                                     DB 4; Length 20;
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                                                                      Indels
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                                                                                                                                                                                                                                                                                                                                           Poly-G immunostimulatory nucleic acid SEQ ID NO: 135
 BP; 3 A; 2 C; 12 G; 3 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 20 BP; 3 A; 2 C; 12 G; 3 T; 0 U; 0 Other;
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                                   Score 18.4; 1
Pred. No. 15;
                                                                        0; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Krieg A;
                                                                                                          1 GGGGTCAACGTTCAGGGGGG 20
                                                                                                                              1 GGGGTCAACGTTCAGGGGG 20
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                                                                                                                                                                                                                                     BP
                                   92.0%;
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                                                                                                                                                                                                                                     AAF98854 standard; DNA; 20
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                                                                                                                                                                                                                                                                                                          (first entry)
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                                                                        Conservative
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                                                      Local Similarity
nes 19; Conserv
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               nucleic acid
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   Sequence 20
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                                                                                                                                                                                                                                                                                                                                                                                                                                   Synthetic.
                                                                                                                                                                                                                                                                      AAF98854;
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AAF98733

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(KLIN/) KLINMAN D.
                     ISHII K.
           WO200061151-A2.
                 12-APR-1999;
             19-OCT-2000
        Synthetic.
                     (/IHSI)
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The invention relates to novel immunogenic CpG oligodeoxynucleotides (AAC80581-C80723). The oligonucleotide are at least 10 bases long and comprise one of the generic sequences 5-NNNT-CpG-WNNN-3' or 5-RY-CpG-RY -3'. The central CpG motif is unmethylated, and the oligonucleotides optionally have phosphorothioate linkages which make them more resisterant to degradation. The invention also relates to an oligonucleotide delivery complex. The oligonucleotide of the invention and a targetting an oligonucleotide of the invention and a targetting complex comprising an oligonucleotide are able to induce either a cell-oligonucleotide are able to induce either a cell-oligonucleotide are able to induce either a cell-oligonucleotide of the sequence 5'-RY-CpG-RY-3' being able to induce a humoral response, and those of the sequence 5'-RNT-CpG-WNN-3' cell-onediated response, and those of the sequence 5'-RY-CpG-RY-3' being able to induce a humoral response or a humoral response. It is thought that after administration, the oligonucleotide acts on antigen-presenting cells (e.g., macrophages and dendritic cells), which then release cytokines, conduction of natural killar kilks (RN) cells. A cell-mediated or humoral response is useful for treating, preventing or an infection, where an immunogenic CpG oligonucleotide is administered either alone or conductions, and the infections which may be treated include erzema, allergic reaction which may be treated include viral, conditions, and the infections with an anti-allerges and other atopic conditions, and the infections with may be treated include erzema, allergic reaction which may be treated include erzema, allergic conditions, and the infections with an anti-infections agent or anti-infections agent or anti-infections and conduction may also be certainly fungal and protozoal infections up a treated include erzema. Allergic erychemated with himmune specend and multiple solerosis), a disease crybematosus, rheumatoid arthritis may allergical warfare. The induction of an autoimmune re Novel oligonucleotides useful for the prevention and treatment of allergies, cancer, and autoimmune disorders and for ameliorating symptoms resulting from exposure to a bio-warfare agent. vaccine; B-cell response; antibody production; immune response induction; vaccine allergy; asthma; infection; bacterial; viral; fungal; protozoal; parasitic; tuberculosis; AIDS; autoimmune disease; lupus erythematosus; rheumatoid arthritis; multiple sclerosis; solid tumour; cancer; immune deficiency; blological warfare agent; cytostatic; antiarthritic; antimicrobial; antiallergic; protozoacide; tuberculostatic; antiarthritic; antiasthmatic; dermatological; phosphorothioate; ss. ymphocytes ex vivo, producing activated lymphocytes which are then Verthelyi D; Claim 4; Page 37; 46pp; English. 12-APR-2000; 2000WO-US009839 99US-0128898P Klinman D, Ishii K, VERT/) VERTHELYI D. WPI; 2001-006880/01.

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Matches
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                                                                                                                                                           administered to the host. The present sequence represents an immunogenic
CpG oligodeoxynucleotide of the invention
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     The invention relates to an HIV vaccine comprising an HIV antigen and an immunostimulatory oligonucleotide (AAF59501-AAF59508). With the exception of oligonucleotide WD1005 (AAF59505), the immunostimulatory oligonucleotides contain at least one unmethylated CpG motif. In preferred embodiments the internucleotide linkage is phosphorodithioate, although phosphodisster and other internucleotide bonds, or mixtures of linkages are within the scope of the invention. The HIV antigen may be selected from gp160, gp120, Nef, Tat, and Nef or Tat derivatives or HIV infection in a patient. The present sequence represents a specifically claimed immunostimulatory CpG oligonucleotide for use in the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    New vaccine formulation comprising human immunodeficiency virus (HIV) antigen and immunostimulatory CpG oligonucleotide, useful for preventing and treating HIV infections in a patient.
                                                                                                                                                                                                                                         Immunostimulatory CpG oligonucleotide WD1004 for use in an HIV vaccine.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                        Gaps
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                                                                                                                                                                                                                                                                      Immunostimulatory CpG oligonucleotide; adjuvant; HIV antigen;
HIV infection; vaccine; prophylaxis; treatment; 88.
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                        Indele
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                        1,
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          Pred. No. 15; ; Mismatches
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Pred. No. 15;
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95.0%; Pre-
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                                                     1 GGGGTCAACGTTCAGGGGGG
                                                                       1 GGGTCAACGTTGAGGGGGG
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                                                                                                                                                        AAF59504 standard; DNA; 20 BP
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                                                                                                                                                                                                                                                                                                                                                                                                           28-JUN-2000; 2000WO-EP005998
                                                                                                                                                                                                                                                                                                                                                                                                                                        29-JUN-1999; 99GB-00015205
31-JAN-2000; 2000GB-00002200
                                                                                                                                                                                                                  (first entry)
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                        19; Conservative
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Best Local Similarity
         Best Local Similarity
Matches 19; Conserv
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                                                                                                                                                                                                                                                                                                                                                   WO200100232-A2.
                                                                                                                                                                                                                 24-APR-2001
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                                                                                                                                                                                                                                                                                                                       Synthetic
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ID AAF9
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AC AAF9
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AAF99567;

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Search completed: September
Job time : 388.286 secs
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                                                                Vaccine, cytostatic, virucidal, bactericidal, fungicidal, anti-parasitic, immunostimulatory, tumour; viral infection, bacterial infection; fungal infection; parasitic infection; cancer, asthma; infections disease, allergy, immune deficiency; phosphorothioate; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Vaccine, cytostatic, virucidal, bactericidal, fungicidal, anti-parasitic, immunostimulatory, tumour, viral infection, bacterial infection; fungal infection; parasitic infection; cancer, asthma;
                                                                                                                                                                                                                                                                                                                                                                                            Vaccinating against tumors, infectious diseases, allergies and asthmausing immunostimulatory Py-rich and TG nucleic acids.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      The to a Thi immune response and to activate immune cells. Note: the present sequence may have a phosphorothicate backbone
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                                          Immunostimulatory nucleic acid #683.
                                                                                                                                                                                                                                                                                                                                                                                                                                   Claim 101; Page 53; 338pp; English
                                                                                                                                                                                                                                                                                                                                       Krieg AM, Schetter C, Vollmer J;
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27-SEP-1999; 99US-0156135P.
23-AUG-2000; 2000US-0227436P.
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19; Conservative
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(COLE-) COLEY PHARM GMBH.
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Matches 19; Conserv
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               12-JUN-2001
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                                                                                                                                     Synthetic.
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The present invention relates to a method for stimulating an immune response. The method comprises administering an immunostimulatory nucleic acid to a non-rodent subject in sufficient quantity to stimulate an immune response. The present sequence is one such immunostimulatory nucleic acid. The immunostimulatory nucleic acids can be pyrimidine rich (py-rich) or thymidine (T) rich. The method is used to vaccinate subjects against tumour antigens, viral antigens (e.g. herpesviridae, retroviridae and/or orthomyxoviridae), bacterial antigens (e.g. toxoplasma, haemophilus, campylobacter, clostridium, Escherichia coli and/or staphylococcus), fungal antigens and/or parasitic antigens. The method is also useful for preventing cancer, asthma, infectious disease, allergy or immune deficiency. The present sequence can also be used to redirect a Th2 to a Th1 immune response and to activate immune cells. Note: the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Vaccinating against tumors, infectious diseases, allergies and asthmausing immunostimulatory Py-rich and TG nucleic acids.
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infectious disease; allergy; immune deficiency; phosphorothioate; ss
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Vollmer J;
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27-SEP-1999; 99US-0156135P.
23-AUG-2000; 2000US-0227436P.
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Matches 19; Conservative
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(COLE-) COLEY PHARM GMBH
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                                                                      Synthetic
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PAT 12-JAN-2002

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100.0%; Score 20; DB 6; Length 20; 100.0%; Pred. No. 19; arive 0; Mismatches 0; Indels
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Immunomodulatory oligonucleotides
Patent: EP 1167377-4 1 02-JAN-2002;
THE UNIVERSITY OF IOWA RESEARCH FOUNDATION (US)
Location/Qualifiers
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Patent: EP 1167379-A 1 02-JAN-2002;
UNIVERSITY OF IOWA RESEARCH FOUNDATION (US)
Location/Qualifiers
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Patent: EP 1167378-A 1 02-JAN-2002;
UNIVERSITY OF IOWA RESEARCH FOUNDATION (US)
Location/Qualifiers
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|db_xref="taxon:32630"

    ..20
    forganism="synthetic construct"
|mol type="unassigned DNA"
|db_xref="taxon:32630"

    .20
    forganism="synthetic construct"
|mol_type="unassigned DNA"
|db_xref="taxon:32630"

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synthetic construct
other sequences; artificial sequences.
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Sequence 1 from Patent EP1167379.
AX342405
AX342405.1 GI:18151848
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synthetic construct
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Best Local Similarity 100.0
Matches 20, Conservative
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Matches 20; Conservative
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ACCESSION
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TITLE
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AUTHORS
TITLE
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AUTHORS
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KEYWORDS
SOURCE
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AX342405
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AX342438
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Unclassified.
1 (bases 1 to 20)
S Train, Klinman, D. and Steinberg, A.D.
Immunomodulatory oligonucleotides
IL Patent: US 6194388-A 1 27-FEB-2001;
Location/qualifiers
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Patent: US 6008200-A 1 28-DEC-1999;
Location/Qualifiers
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/organism="unknown"
/mol_type="unassigned DNA"
                                                                                                                                                                                                                                                                                                          /organism="unknown"
/mol_type="unassigned DNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 1 from patent US 6194388.
AR135030.1 GI:14123935
   ALIGNMENTS
                                                                         Sequence 1 from patent US 6008200.
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Sequence 1 from Patent EP1167377.
AX342378
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Matches 20; Conservative
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Unclassified.
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ACCESSION VERSION KEYWORDS SOURCE ORGANISM

DEFINITION

RESULT 2 AR135030

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source

ORIGIN

TITLE JOURNAL FEATURES

AUTHORS

REFERENCE

SOURCE ORGANISM

DEFINITION ACCESSION VERSION KEYWORDS

RESULT 1 AR096686

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Gaps

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PAT 12-JAN-2002

Query Match

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ORIGIN

DEFINITION ACCESSION

RESULT 3 AX342378

ORGANISM

VERSION KEYWORDS SOURCE

REFERENCE AUTHORS

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TITLE JOURNAL FEATURES

REFERENCE AUTHORS

Matches

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RESULT 6. AR140453

SOURCE ORGANISM

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TITLE JOURNAL

REFERENCE AUTHORS

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BD251267.

BD251267.

BD251267.

JP 2002537353-4/3.

Synthetic construct

Synthetic construct

Synthetic construct

other sequences; artificial sequences.

El (bases 1 to 20)

Brancement of Neisseria antigen bactericidal activity using CG

Enhancement of Neisseria antigen bactericidal activity using CG

Enhancement of Noisseria antigen bactericidal activity using CG

Enhancement of Noisseria antigen bactericidal activity using CG

Enhancement of Noisseria antigen bactericidal activity using CG

Entent: JP 2002537353-A 3 05-NOV-2002;

CHIRON SPA

OS Artificial Sequence

PR 09-FRB-2000 JP 2000600685

PR 26-FRB-1999 US 60/121792

PR 26-FRB-1999 US 6
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synthetic construct
Sw synthetic construct
construct
ther sequences, artificial sequences.

L (bases 1 to 20)
S artificial sequences.

L (bases 1 to 20)
S microemulsions with Adsorbed Macromoelecules and Microparticles
Microemulsions with Adsorbed Macromoelecules and Microparticles
Chiron Corporation
OS Artificial Sequence
PN JP 2002537102-A/3
PD 05-NOV-2002
PR 09-FBB-2000 JP 2000600618
PR 29-JUL-1999 US 60/146391,28-OCT-1999 US 60/161997, PR
26-FBB-1999 US 60/121858
PI john barackman, manmohan simph, mildred ugozol1, jina kazazu, john
                                                                                                                                                                                                                                                                                                                                                                                                         29-JUL-1999 US 60/146391,28-OCT-1999 US 60/161997, PR B-1999 US 60/121858
john barackman,manmohan simph,mildred ugozoli,jina kazazu,john
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JP 2002537353-A/3
05-NOV-2002
09-FEB-2000 JP 2000600685
26-FEB-1999 US 60/121792
GUIDO GRANDI,RINO RAPPUOLI,MARZIA MONICA GIULIANI,MARIAGRAZIA
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    .20
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    .22 construct
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/organism="synthetic construct"
/mol type="genomic DNA"
/db_xref="taxon:32630"
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gary s ott,derek ohagan
Oligonucleotide
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Unknown.
Unknown.
Unclassified.
Unclassified.
I (bases 1.0.20)
Xrieg,A.M., Kline,J., Klinman,D. and Steinberg,A.D.
Immunostimulatory nucleic acid molecules
Immunostimulatory nucleic acid molecules
Patent: US 6207646-A 12 27-MAR-2001;
Location/Qualifiers
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Unclassified.
Unclassified.
1 (base1 to 20)
3 Krieg,A.M. and Kline,J.N.
Immunostimulatory nucleic acid molecules
AL Patent: US 6239116-A 90 29-MAY-2001;
Location/Qualifiers
Location/Qualifiers
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                Similarity 100.0%; Pred. No. 19; 20; Conservative 0; Mismatches
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/mol_type="unassigned DNA"
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Sequence 12 from patent US 6207646.
AR140453.1 GI:14482949
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Sequence 90 from patent US 6239116.
AR154761.1 GI:15122814
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PAT 18-DEC-2003

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Victoriassified.
1 (bases 1 to 20)
Krieg, A. M. and Welher, G.
Method of treating cancer using immunostimulatory oligonucleotides
Patent: US 6653292-A 12 5-NOV-2003;
                                                                                                 Immunostimulatory nucleic acid molecules for activating dendritic cells
                                                                                                                                                                                                                                             Query Match 92.0%; Score 18.4; DB 6; Length 20; Best Local Similarity 95.0%; Pred. No. 1.3e+02; Matches 19; Conservative 0; Mismatches 1; Indels
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Pred. No. 1.3e+02;
0; Mismatches 1;

    .20
    /organism="synthetic construct"
/mol_type="unassigned DNA"

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SMITHKLINE BEECHAM BIOLOGICALS S.A. (BE)
Location/Qualifiers
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                                                                                                                                      Patent: US 6429199-A 47 06-AUG-2002;
Location/Qualifiers
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Sequence 12 from patent US 6653292.
AR432435.1 GI:40194770
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Sequence 4 from Patent WO0100231.
AX063578

    .20
    /organism="unknown"
    /mol_type="genomic DNA"

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/wol_type="genomic DNA"
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                                              Unknown.
Unclassified.
1 (bases 1 to 20)
Krieg, A.M. and Hartmann, G.
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 AR222213.1 GI:23329678
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Unclassified.
1 (bases 1 to 20)
Krieg, A.M. Davis, H.L., Wu,T. and Schorr, J.
Krieg, A.M. Davis, H.L., Wu,T. and Schorr, J.
Vectors and methods for immunization or therapeutic protocols
Patent: US 6339068-A 52 15-JAN-2002;
Location/Qualifiers
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Unclassified.
I (bases 1 to 20)
I (bases 1 to 20)
Krieg, A. Davis, H.L., Wu, T. and Schorr, J.
Krieg, A. Davis, H.L., Wu, T. and Schorr, J.
Vectors and methods for immunization or therapeutic protocols
Patent: US 6339068-A 59 15-JAN-2002;
Location/Qualifiers
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              Query Match 92.0%; Score 18.4; DB 6; Length 20; Best Local Similarity 95.0%; Pred. No. 1.3e+02; Matches 19; Conservative 0; Mismatches 1; Indels
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AR182880
AR182880.1 GI:20226087
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Sequence 59 from patent US 6339068.
AR182887
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Sequence 47 from patent US 6429199.
AR222213
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Immunostimulatory nucleic acids
Patent: WO 0122972-A 968 05-APR-2001;
UNIVERSITY OF IOWA RESEARCH FOUNDATION (US) ; Coley Pharmaceutical
                                                                                                                                                                                                                                                  Krieg,A.M., Schetter,C. and Vollmer,J.C.
Immunostimulatory nucleic acids
Patent: WO 0122972-A 767 05-APR-2001;
UNIVERSITY OF IOWA RESEARCH FOUNDATION (US) ; Coley Pharmaceutical
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95.0%; Pred. No. 1.3e+02;
tive 0; Mismatches 1;
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/db_xref="taxon:32630"

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Sequence 968 from Patent WO0122972.
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AXI04776.1 GI:13920973
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Sequence 767 from Patent WO0122972.
AX104575
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Immunostimulatory nucleic acids
Patent: WO 0122972-A 519 05-ARP-2001;
UNIVERSITY OF IOWA RESEARCH FOUNDATION (US); Coley Pharmaceutical
/db xref="taxon:32630"
/noTe="oligonucleotide-nucleotides 1,2,15,16,17,18 and 19
have linkages with a thioate modification"
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                                                                               Query Match
92.0%; Score 18.4; DB 6;
Best Local Similarity 95.0%; Pred. No. 1.3e+02;
Matches 19; Conservative 0; Mismatches 1;
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/db_xref="taxon:32630"
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SmithKline Beecham Biologics SA (BE)
Location/Qualifiers
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Sequence 519 from Patent WO0122972.
AXI04327
AXI04327.1 GI:13920524
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Sequence 4 from Patent WO0100232.
AX088932
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Patent: WO 0122990-A 135 05-APR-2001;
Coley Pharmaceutical Group, Inc. (US) ; UNIVERSITY OF IOWA RESEARCH
FOUNDATION (US)
                                                                                                                                                Hartmann, G.D., Bratzler, R.L. and Krieg, A.U.
Methods related to immunostimulatory nucleic acid-induced
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Cpg receptor (cpg-r) and methods relating thereto
Patent: WO 0132877-A 5 10-MAY-2001;
CHIRON CORPORATION (US)
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Sequence 135 from Patent WO0122990.
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Sequence 89 from Patent WO0151500.
AX194489
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Sequence 5 from Patent WO0132877.
AX135634.1 GI:14271904
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AX105236.1 GI:13921386
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AX135634
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Coley Pharmaceutical Group, Inc. (US); UNIVERSITY OF IOWA RESEARCH FOUNDATION (US)
Location/Qualifiers
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Immunostimulatory nucleic acids
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Ascent: WO 0122972-A 969 05-APR-2001;
UNIVERSITY OF IOWA RESEARCH FOUNDATION (US); Coley Pharmaceutical
GmbH (DE)
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Methods related to immunostimulatory nucleic acid-induced
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note="Backbone has phosphorothioate linkages."
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/note="Backbone has phosphodiester linkages."

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    .20
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PAT 16-JUL-2002
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                                                                                                                                                                                    Gaps
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Vaccine against RSV
Patent: WO 0211761-A 107 14-PEB-2002;
HENRY M. JACKSON FOUNDATION FOR THE ADVANCEMENT OF MILITARY
MEDICINE (US)

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    /organism="synthetic construct"
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    /db_xref="taxon:32630"
    /note="Synthetic oligonucleotide~phosphorothioate backbone"

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/mol_type="unassigned DNA"
/db_xref="taxon:33630"
/note="Artificial sequence is synthesized"
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95.0%; Pred. No. 1.3e+02;
cive 0; Mismatches 1;
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Sequence 107 from Patent WO0211761.
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Sequence 3 from Patent WO0226209.
AX468483
AX468483.1 GI:21901313
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                   Klinman,D., Ishli,K. and Verthelyi,D.
Oligodeoxynucleotide and its use to induce an immune response
Patent: WO 0151500-A 89 19-JUL-2001;
Secretary of the Department of Health and Human Services (US)
Location/Qualifiers
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/mol type="unassigned DNA"
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/note="Synthetic oligonucleotide-chimeric phosphorothioate/phosphodiester backbone with phosphorothioate at 5' and 3' ends"
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Patent: WO 0197843-A 436 27-DEC-2001;
UNIVERSITY OF IOWA RESEARCH FOUNDATION (US)
Location/Qualifiers
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UNIVERSITY OF IOWA RESEARCH FOUNDATION (US)
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92.0%; Score 18.4; DB 6;
Best Local Similarity 95.0%; Pred. No. 1.38+02;
Matches 19; Conservative 0; Mismatches 1;
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/noTe="Synthetic DNA"
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Methods for enhancing antibody-induced
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AX355409
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AX355409
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AX355408
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Query Match 92.0%; Score 18.4; DB 6; Length 20; Best Local Similarity 95.0%; Pred. No. 1.3e+02; Matches 19; Conservative 0; Mismatches 1; Indels
                                                                                                                                                                                                                     Inhibition of angiogenesis by nucleic acids
Inhibition of angiogenesis by nucleic acids
Patent: WO 02053141-A 968 11-JUL-2002;
Coley Pharmaceutical Group, Inc. (US)
Location/Qualifiers
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                                                                                                                                                      synthetic construct
synthetic construct
other sequences; artificial sequences.
                                                          20 bp DN Sequence 968 from Patent WO02053141.
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                               92.0%; Score 18.4; DB 6; Length 20; 95.0%; Pred. No. 1.3e+02; ive 0; Mismatches 1; Indels
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Inhibition of angiogenesis by nucleic acids
Patent: WO 02053141-A 519 11-JUL-2002;
Coley Pharmaceutical Group, Inc. (US)
Location/Qualifiers
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Sequence 767 from Patent W002053141.
AX547628
AX547628.1 GI:25812772
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Sequence 519 from Patent WO02053141.
AX547380.
AX547380.1 GI:25812524
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AX547380
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16960, A
2, Appli
75755, A
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3, Appli
4, Appli
13937, A
                                                                               September 3, 2005, 07:10:49; Search time 113.714 Seconds (without alignments) 287.787 Million cell updates/sec
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/cgn2_6/ptodata/1/ina/5B_COMB.seq:*
/cgn2_6/ptodata/1/ina/6A_COMB.seq:*
/cgn2_6/ptodata/1/ina/6B_COMB.seq:*
/cgn2_6/ptodata/1/ina/PCTUS_COMB.seq:*
/cgn2_6/ptodata/1/ina/PCTUS_COMB.seq:*
              GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
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US-09-082-649B-59
US-09-191-170-47
US-09-337-619-12
US-09-965-101-59
US-09-965-101-59
US-09-965-101-59
US-09-965-101-21
US-09-126-09B-52
US-09-125-193A-46
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Maximum Match 100%
Listing first 90 summaries
                                                         OM nucleic - nucleic search, using sw model
                                                                                                                                                    1 ggggtcaacgttcagggggg 20
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Maximum DB seq length: 200000000
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Match Length DB
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09-949-016-1759 09-949-0394-291 09-949-016-9644 09-949-016-9644 09-949-016-9697 09-949-016-9697 09-949-016-9697 09-949-016-9697 09-949-016-9750 09-949-016-9750 09-949-016-9750 09-949-016-9750 09-949-016-9750 09-949-016-9750	US-09-949-016-98837 US-09-949-016-99102 US-09-949-016-99103 US-09-949-016-99103 US-09-949-016-99369 US-09-949-016-99634 US-09-949-016-99600 US-09-949-016-99901 US-09-949-016-100167 US-09-949-016-100167 US-09-949-016-100432 US-09-949-016-100698 US-09-949-016-101002 US-09-949-016-101002 US-09-949-016-101003 US-09-949-016-101268 US-09-949-016-101268 US-09-949-016-101268 US-09-949-016-101268 US-09-949-016-101268 US-09-949-016-101268 US-09-949-016-101268 US-09-949-016-101268 US-09-949-016-101268 US-09-949-016-101268 US-09-949-016-101235 US-09-949-016-101235	09-489-039A-5251 09-252-991A-1063 09-998-416-336 09-489-039A-2895 09-489-039A-27895 09-270-767-11891 10-118-318-3 09-249-016-1326 09-949-016-1326 09-945-916-1 09-940-016-14546 09-949-016-14546 09-949-016-14546
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ALIGNMENTS

US-08-386-063-1 ; Sequence 1, Application US/08386063 ; Patent No. 6008200 ; GENERAL INPORMATION:

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1 GGGGTCAACGTTCAGGGGGG 20
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                    TELEPAX: (617)227-5941
INFORMATION FOR SEQ ID NO: 1
SEQUENCE CHARACTERISTICS:
LENGTH: 20 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                             ; TOPOLOGY: linear; MOLECULE TYPE: DNA US-08-386-063-1
                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity
Matches 20; Conserv
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; Sequence 1, Application US/08386063
; GENERAL INFORMATION:
APPLICANT Archur M. Krieg, M.D.
TITLE OF INVENTION: IMMUNOMODULATORY OLIGONUCLEOTIDES
NUMBER OF SEQUENCES: 27
; CORRESPONDENCE ADDRESS:
ORRESPONDENCE ADDRESS:
; CORPUTE: ABOSTON
STREET: 60 STATE STREET, SUITE 510
CITY: BOSTON
STATE: MASSACHUSETTS
COUNTRY: USA
COMPUTER: FLOPPY disk
COMPUTER: FLOPPY disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII text
CURRENT APPLICATION DATA:
FILING DATE:
BRITING DATE:
BRITING DATE:
CURRENT APPLICATION NUMBER: US/08/386,063
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          100.0%; Score 20; DB 3; Length 20; 100.0%; Pred. No. 1.3; ive 0; Mismatches 0; Indels
APPLICANT: Arthur M. Krieg, M.D.
TITLE OF INVENTION: IMMUNOMODULATORY OLIGONUCLEOTIDES
NUMBERS OF SEQUENCES: 27
CORRESPONDENCE ADDRESS:
ADDRESSEE: LAHIVE & COCKFIELD
STREET: 60 STATE STREET, SUITE 510
                                                                                                                   STREET: 60 STATE STREET, SUITE 510
CITY: BOSTON
STATE: MASSACHUSETTS
COUNTRY: USA
ZIP: 02109-1875
COMPUTER: READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC COMpatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII text
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/386,063
FILING DATE:
CLASSIFICATION: 424
ATTORNEY/AGENT INFORMATION:
NAME: AROLD, BETH E.
REGISTRATION NUMBER: 35,430
REGISTRATION NUMBER: 35,430
REGISTRATION NUMBER: 35,430
RECISTRATION NUMBER: 35,430
TELERENCE/DOCKET NUMBER: UIZ-013CP
TELECOMMUNICATION INFORMATION:
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CLASSIFICATION:
NAME: ARNOLD, BETH B.
REGISTRATION NUMBER: 35,430
REFERENCE/DOCKET NUMBER: UIZ-013CP
FELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 UIZ-013CP
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SEQUENCE CHARACTERISTICS:
LENGTH: 20 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
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Best Local Similarity 100.0
Matches 20; Conservative
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Sequence 63, Application US/09030701B

Patent No. 6214806

GENERAL INFORMATION:
APPLICANT: Krieg, Arthur M.
APPLICANT: Schwartz, David A.
TITLE OF INVENTION: UNBETHYLATED CPG DINUCLEOTIDE IN THE TREATMENT OF
TITLE OF INVENTION: UNBETHYLATED DISORDERS
TITLE OF INVENTION: LPS-ASSOCIATED DISORDERS
FILE REFERENCE: C1039/7011
CURRENT PILING DATE: 1998-02-25
FRIOR APPLICATION NUMBER: 60/039,405
FRIOR PILING DATE: 1997-02-28
NUMBER OF SEQ ID NOS: 65
SOFTWARE: FastSEQ for Windows Version 3.0
LENGTH: 20
                                                                                            Gaps
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Sequence 12, Application US/08738652B

Patent No 6207646

Patent No 6207646

TITLE OF INVENTATION:

TITLE OF INVENTATION: Immunostimulatory Nucleic Acid Molecules

FILE REFERENCE: C1039/7004 HCL

CURRENT APPLICATION NUMBER: US/08/738,652B

CURRENT APPLICATION NUMBER: US/08/736,358

EARLIER FILING DATE: 1994-07-15

EARLIER FILING DATE: 1994-07-15

EARLIER FILING DATE: 1995-02-07

NUMBER OF SEQ ID NOS: 55

SOFTWAREE: FastSEQ for Windows Version 3.0

LENGTH: 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match 92.0%; Score 18.4; DB 3; Length 20; Best Local Similarity 95.0%; Pred. No. 7.7; Matches 19; Conservative 0; Mismatches 1; Indels
100.0%; Score 20; DB 3; Length 20; nilarity 100.0%; Pred. No. 1.3; Conservative 0; Miamerical
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GGGGTCAACGTTCAGGGGGG 20
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LENGTH: 20
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COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER LEMPC COMPACIALE
COMPUTER: Floppy disk
COMPUTER: Floppy disk
COMPUTER: TBM PC COMPACIALE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII text
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/960,774
FILING DATE: 30-October-1997
CLASSIFICATION NUMBER: U.S. Serial No. 6239116 08/738,652
FILING DATE: October 30, 1996
CLASSIFICATION: 514
ATTORNEY/AGENT INFORMATION:
NAME: Haile, Lisa A.
REGISTRATION NUMBER: 38,347
REGISTRATION NUMBER: 38,347
REGISTRATION NUMBER: 38,347
RECECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELEFRONE: 619/678-5079
                                                                                                                                                                                                                                                                                                                                                          GENERAL INFORMATION:
APPLICANT: Krieg et al.,
APPLICANT: Krieg et al.,
TITLE OF INVENTION: IMMUNOSTIMULATORY NUCLEIC ACID MOLECULES
NUMBER OF SUGENCES: 111
CORRESPONDENCE ADDRESS:
ADDRESSEE: Fish & Richardson P.C.
STRRET: 4225 Executive Square, Suite 1400
CITY: La Jolla
STATE: CA
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 18.4; DB 3; Length 20; Pred. No. 7.7;
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                                                                                            Query Match 92.0%; Score 18.4; DB 3; Best Local Similarity 95.0%; Pred. No. 7.7; Matches 19; Conservative 0; Mismatches 1;
                FEATURE:

OTHER INFORMATION: synthetic oligonucleotide
US-09-030-701-63
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0; Mismatches
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                                                                                                                                                                                                                                                                                                            Sequence 90, Application US/08960774
Patent No. 6239116
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GGGTCAACGTTGAGGGGGG 20
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          INFORMATION FOR SEQ ID NO: 90: SEQUENCE CHARACTENISTICS: LENGTH: 20 base pairs TYPE: nucleic acid STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity 95.0%;
Matches 19; Conservative
ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        , MOLECULE TYPE: CDNA
US-08-960-774-90
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NAME/KEY: misc_feature
LOCATION: (0)...(0)
OTHER INFORMATION: Has SOS-ODN backbone with two S-linkages at the 5'
OTHER INFORMATION: end, five S-linkages at the 3' end, and O-linkages
OTHER INFORMATION: in between.
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pacent No. 6339066

GENERAL INFORMATION:
APPLICANT: Davis, Heather L.
APPLICANT: Krieg, Arthur M.
APPLICANT: Schorr, Joachim
APPLICANT: Schorr, Joachim
APPLICANT: Wu, Tong
TITLE OF INVENTION: Therapeutic Protocols
TITLE OF INVENTION: Therapeutic Protocols
TITLE OF INVENTION: US/09/082,649B
CURRENT APPLICATION NUMBER: US/09/082,649B
CURRENT FILING DATE: 1998-05-20
PRIOR APPLICATION NUMBER: US 60/047,233
PRIOR FILING DATE: 1997-05-20
PRIOR FILING DATE: 1997-05-20
NUMBER OF SEQ ID NOS: 85
SOFTWARE FEBRESEQ for Windows Version 3.0
APPLICANT: Krieg, Arthur M.
APPLICANT: Schorr, Joachim
APPLICANT: Wu, Tong
TITLE OF INVENTION: Therapeutic Protocols
TITLE OF INVENTION: 1998-05-20
CURRENT FILING DATE: 1997-05-20
PRIOR FILING DATE: 1997-05-20
PRIOR FILING DATE: 1997-05-20
NUMBER OF SEQ ID NOS: 85
SOFTWARE: FRALERQ for Windows Version 3.0
SEQ ID NO 52
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 92.0%; Score 18.4; DB 3; Length 20; Best Local Similarity 95.0%; Pred. No. 7.7; Matches 19; Conservative 0; Mismatches 1; Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      OTHER INFORMATION: synthetic oligonucleotide; NAME/KEY: misc_feature; LOCATION: (0)...(0); COCATION: (0)...(0); OTHER INFORMATION: Has a phosphorothioate backbone. US-09-082-649B-52
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        92.0%; Score 18.4; DB 3;
95.0%; Pred. No. 7.7;
tive 0; Mismatches 1;
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ORGANISM: Artificial Sequence
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                            TYPE: DNA
ORGANISM: Artificial Sequence
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Best Local Similarity 95.09
Matches 19, Conservative
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US-09-082-649B-59
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RESULT 11
US-09-965-101-59

is Sequence 59, Application US/09965101

patent No. 681957

igeneral INFORMATION:

APPLICANT: Exieg, Arthur M.

APPLICANT: Schort, Joachim

APPLICANT: Wi, Tong

TITLE OF INVENTION: Vectors and Methods for Immunization or TITLE OF INVENTION: Vectors and Methods for Immunization or TITLE OF INVENTION: Vectors and Methods for Immunization or TITLE OF INVENTION: Vectors and Methods for Immunization or TITLE OF INVENTION: VARIABLE: 2001-09-26

FILE REPERENCE: C1039/7057 (HCL/MAT)

CURRENT FILING DATE: 1997-05-20

PRIOR APPLICATION NUMBER: US 60/047,233

PRIOR PILING DATE: 1997-05-20

PRIOR PILING DATE: 1997-05-20

NUMBER OF SEQ ID NOS: 84

SOFTWARE: FastSEQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     JUNEARLY INCURANTION:

APPLICANT: BAYIS, Heather I.

APPLICANT: Krieg, Arthur M.

APPLICANT: Schorr, Joachim

APPLICANT: Genorr, Joachim

APPLICANT: Genorr, Joachim

APPLICANT: Wu, Tong

TITLE OF INVENTION: Vectors and Methods for Immunization or

TITLE OF INVENTION: Therapeutic Protocols

FILE REFERENCE: C1039/7057 (HCL/MAT)

CURRENT APPLICATION NUMBER: US/09/965,101

CURRENT FILING DATE: 2001-09-26

PRIOR APPLICATION NUMBER: US 60/047,233

PRIOR APPLICATION NUMBER: US 60/047,233

PRIOR APPLICATION NUMBER: US 60/047,209

PRIOR APPLICATION NUMBER: US 60/047,209
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 18.4; DB 4; Length 20;
Pred. No. 7.7;
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NAME/KEY: misc_feature
LOCATION: (0)...(0)
CTHER INFORMATION: Has a phosphorothioate backbone.
US-09-965-101-52
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0; Mismatches
                                                                                                                                                                                                                                                                               RESULT 10
US-09-965-101-52
; Sequence 52, Application US/09965101
; Patent No. 6821957
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 GGGTCAACGTTCAGGGGG 20
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Best Local Similarity 95.0%;
Matches 19; Conservative
19; Conservative
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Matches
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APPLICANT: Hartmann, Gunther

APPLICANT: Hartmann, Gunther

TITLE OF INVENTION: Immunostimulatory Nucleic Acid Molecules

TITLE OF INVENTION: Exactivating Dendritic Cells

TITLE OF INVENTION: Exactivating Dendritic Cells

FILE REFERENCE: C1039/7017

CURRENT APPLICATION NUMBER: US 08/960,774

EARLIER APPLICATION NUMBER: US 08/738,652

EARLIER PILING DATE: 1999-11-30

EARLIER PILING DATE: 1999-10-30

EARLIER PILING DATE: 1999-02-07

EARLIER PILING DATE: 1999-02-07

EARLIER PILING DATE: 1999-02-07

EARLIER PILING DATE: 1994-07-15

NUMBER OF SEQ ID NOS: 99

SOFTWARE: FastSEQ for Windows Version 3.0

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LENGIN: 2007

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APPLICANT: Krieg, Arthur M.
TITLE OF INVENTION: Methods of Treating Cancer Using
TITLE OF INVENTION: Immunostimulatory Oligonucleotides
FILE REFERENCE: C1039/7021/HCL
CURRENT APPLICATION NUMBER: US/09/337,619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 18.4; DB 3;
Pred. No. 7.7;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ; OTHER INFORMATION: synthetic oligonucleotide US-09-191-170-47
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
92.0%; Score 18.4; D
Best Local Similarity 95.0%; Pred. No. 7.7;
Matches 19; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CURRENT AFFLING DATE: 1999-06-21
EARLIER APPLICATION NUMBER: US 08/960,774
EARLIER FILING DATE: 1999-06-21
EARLIER FILING DATE: 1997-06-30
EARLIER FILING DATE: 1996-10-30
EARLIER FILING DATE: 1994-07-15
NUMBER OF SEQ ID NOS: 123
SOFTWARE: FABLESEQ for Windows Version 3.0
SEQ ID NO 12
LENGTH: 20
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; Sequence 12, Application US/09337619
; Patent No. 6653292
                                                                                                                                                                                              ; Sequence 47, Application US/09191170
; Patent No. 6429199
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    1 GGGGTCAACGTTGAGGGGGG 20
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ORGANISM: Artificial Sequence
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Best Local Similarity
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SEQUENCE DESCRIPTION: SEQ ID NO: 111
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Best Local Similarity
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Best Local Similarity
                    US-08-150-204E-111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQ ID NO 21
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                                             FEATURE:
COTHER INFORMATION: synthetic oligonucleotide
COTHER INFORMATION: synthetic oligonucleotide
NAME/KEY: misc_feature
LOCATION: (0) ... (0)
COTHER INFORMATION: Has SOS-ODN backbone with two S-linkages at the 5'
COTHER INFORMATION: end, five S-linkages at the 3' end, and O-linkages
US-09-965-101-59
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: CHO, Joong Myung
LEE, Yong Beom
PARK, Young Woo
LIM, Kook Jin
CHOI, Deog Young
SO, Hong Seob
KIM, Chun Hyung
KIM, Sung Taek
YANG, Jae Young
TITLE OF INVENTION: HEPATITIS C DIAGNOSTICS AND VACCINES
NUMBER OF SEQUENCES: 128
CORRESPONDENCE ADDRESS:
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                                                                                                                                                                                                                                             Length 20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STATE: Designant Country: Republic of Korea COUNTRY: Republic of Korea ZIP: 305-34 COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette, 3.5inch, 1.44MB storage COMPUTER: IBM PC/pentium OPERATING SYSTEM: Mindows SOFTWATE: Microsoft Word CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/150,204E FILING DATE: 20-Apr-1994 CLASSIFICATION: <Unknown>
                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                             Query Match
92.0%; Score 18.4; DB 4;
Best Local Similarity 95.0%; Pred. No. 7.7;
Matches 19; Conservative 0; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ADDRESSEE: YANG, Jae Young
STREET: 386-1, Doryong-dong, Yuseong-gu
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NAME: Shahan Islam, E80.
REGISTRATION NUMBER: 32,507
REFERENCE/DOCKET NUMBER: 2695/FLK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRIOR APPLICATION DATA:
APPLICATION NUMBER: KR 91-9510
FILING DATE: 10-JUN-1991
APPLICATION NUMBER: KR 91-13601
FILING DATE: 6-AUG-1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-08-150-204E-111
; Sequence 111, Application US/08150204E
; Patent No. 6538156
; GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (212) 940-8564
                                                                                                                                                                                                                                                                                                                                      1 GGGGTCAACGTTCAGGGGG 20
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE CHARACTERISTICS:
LENGTH: 318 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   INFORMATION FOR SEQ ID NO: 111
         TYPE: DNA ORGANISM: Artificial Sequence
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APPLICANT: Krieg, Arthur M.
APPLICANT: Krieg, Arthur M.
APPLICANT: Weiner, George
TITLE OF INVENTION: Methods and Products for Stimulating the
TITLE OF INVENTION: Immune System Using Immunotherapeutic Oligonucleotides and
TITLE OF INVENTION: Gytokines
FILE REPERENCE: C1039/7026/HCL
CURRENT APPLICATION NUMBER: US/09/286,098
CURRENT APPLICATION NUMBER: US 60/080,729
EARLIER APPLICATION NUMBER: 1998-04-03
KNUMBER OF SEQ ID NOS: 105
SOFTWARE: FSEQ for Windows Version 3.0
SEQ ID NO 52
LENGTH: 19
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APPLICANT: Krieg, Arthur M.
APPLICANT: Krieg, Arthur M.
APPLICANT: Schwartz, David A.
TITLE OF INVENTION: USE OF NUCLEIC ACIDS CONTAINING
TITLE OF INVENTION: UNMETHYLATED CpG DINUCLEOTIDE IN THE TREATMENT OF
TITLE OF INVENTION: LPS-ASSOCIATED DISORDERS
FILE REFERENCE: Cl039/7011
CURRENT APPLICATION NUMBER: US/09/030,701B
CURRENT FILING DATE: 1998-02-25
FRIOR PPLICATION NUMBER: 60/039,405
FRIOR FILING DATE: 1997-02-28
NUMBER OF SEQ ID NOS: 65
SOFTWARE: FASTSEQ for Windows Version 3.0
                                                    Gaps
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           Length 318;
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         Score 16; DB 4; Le
Pred. No. 1.4e+02;
0; Mismatches 0;
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Pred. No. 1.4e+02;
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Pred. No. 1.4e+02;
0; Mismatches 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; OTHER INFORMATION: SYNCHECIC oligonuclectide US-09-030-701-21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ; OTHER INFORMATION: Synthetic Sequence US-09-286-098-52
                                                                                                                                                                                                                                                        Sequence 21, Application US/09030701B Patent No. 6214806
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-09-286-098-52; Sequence 52, Application US/09286098; Patent No. 6718371; GENERAL INFORMATION:
80.0%; Scor
100.0%; Pre
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milarity 89.5%; 1
Conservative 0;
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89.5%;
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                                                                                                5 TCAACGTTCAGGGGG 20
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                Query Match
Best Local Similarity 100.0
Matches 16; Conservative
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Gaps

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Length 19; Indels

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US-09-949-016-16960

Sequence 16960, Application US/09949016

Sequence 16960, Application US/09949016

Sequence 16960, Application US/09949016

GENERAL INFORMATION:

APPLICANT: VENTER, J. Craig et al.

TITLE OF INVENTION: POLYMORPHISMS IN KNOWN GENES ASSOCIATED

TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF

FILE REFERENCE: CLO01307

CURRENT PILIOR DATE: 2000-04-14

PRIOR APPLICATION NUMBER: 60/241,755

PRIOR FILING DATE: 2000-10-03

PRIOR FILING DATE: 2000-10-03

PRIOR FILING DATE: 2000-10-03

PRIOR FILING DATE: 2000-09-08

NUMBER OF SEQ ID NOS: 207012

SOUTHARE: PERSENCE OF Windows Version 4.0

LENGTH: 31713
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match 77.0%; Score 15.4; DB 4; Best Local Similarity 94.1%; Pred. No. 4.2e+02; Matches 16; Conservative 0; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                         Score 15.8; DB 3;
Pred. No. 1.4e+02;
0; Mismatches 2;
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APPLICANT: Hacheler, Jean
TITLE OF INVENTION: Immunostimulant Emulsion
FILE REFERENCE: 01-125
CURRENT APPLICATION NUMBER: US/09/786,532
CURRENT FILING DATE: 2001-06-27
NUMBER OF SEQ ID NOS: 2
SOFTWARE: Patentin version 3.0
SEQ ID NO 2
LENGTH: 20
                                                                                                                                                                                                                                                                                 FEATURE:
; OTHER INFORMATION: Synthetic Oligonucleotide
US-09-325-193A-46
PRIOR APPLICATION NUMBER: US 09/154,614
PRIOR FILING DATE: 1998-09-16
PRIOR APPLICATION NUMBER: PCT/US98/04703
PRIOR FILING DATE: 1998-03-10
PRIOR PLING DATE: 1997-03-10
NUMBER OF SEQ ID NOS: 98
SOCTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 46
LENGTH: 19
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Patent No. 6610308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 GGGGTCAACGTTCAGGGGG 19
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Best Local Similarity 89.5%;
Matches 17; Conservative C
                                                                                                                                                                                                                                    TYPE: DNA
ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ; ORGANISM: Human
US-09-949-016-16960
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         Gaps
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                                                                                                                                                                                    US-08-960-774-12

| Sequence 12, Application US/08960774
| Sequence 12, Application US/08960774
| Patent NO. 6239116
| GENERAL INFORMATION:
| TITLE OF INVENTION: IMMINOSTIMULATORY NUCLEIC ACID MOLECULES
| NUMBER OF SEQUENCES: 111
| CORRESPONDENCE ADDRESS:
| ADDRESSEE: Fish & Richardson P.C.
| STREET: 4225 Executive Square, Suite 1400
| CITY: La Jolla
| STATE: CA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Davis, Heather L.
APPLICANT: Schorr, Joachim
APPLICANT: Schorr, Joachim
APPLICANT: Krieg, Arthur M.
TITLE OF INVENTION: Unmethylated CpG Dinucleotide as an Adjuvant
FILE REPERENCE: C1039/7025/HCL
CURRENT APPLICATION NUMBER: US/09/325,193A
CURRENT FILING DATE: 1999-06-03
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
COMPUTER: ASOIL text
CURRENT APPLICATION DATA:
APPLICATION NUMBER: U.S. Serial No. 6239116 08/738,652
FILING DATE: 30-0ctober-1997
FILING DATE: October 30, 1996
CLASSIFICATION: 514
PRIOR APPLICATION: 514
ATTORNEY/AGENT INFORMATION:
NAME: Haile, Lisa A.
REFERENCE/DOCKET NUMBER: 08918/012001
TELEPHONE: 619/678-5099
INFORMATION FOR SEQ ID NO: 12:
SEQUENCE CHARACTERISTICS:
LENGTH: 19 base pairs
TYPE: NUMBER: single
STAPE: NUMBER: Single
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         Indels
         5,
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         0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 46, Application US/09325193A Patent No. 6406705 GENERAL INFORMATION:
                                                                                               1 GGGGTCAACGTTGACGGGG 19
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         17; Conservative
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         Matches
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Gaps

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Indels

Length 31713;

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ORGANISM: Homo sapiens
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; LOCATION: (54)..(4424)
US-09-774-528-217
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APPLICANT:
APPLICANT:
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APPLICANT:
APPLICANT:
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APPLICANT:
APPLICANT:
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; Sequence 75755, Application US/09949016
; Patent No. 6812339
; GENERAL INFORMATION; Craig et al.
APPLICANT: VENTER, J. Craig et al.
TITLE OF INVENTION: POLYMORPHISMS IN KNOWN GENES ASSOCIATED
TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF;
FILE REFERENCE: CL001307
; CURRENT APPLICATION NUMBER: US/09/949,016
; CURRENT FILING DATE: 2000-04-14
; PRIOR APPLICATION NUMBER: 60/231,768
; PRIOR FILING DATE: 2000-10-03
; PRIOR FILING DATE: 2000-09-08
; RIOR FILING DATE: 2000-09-08
; NUMBER OF SEQ ID NOS: 207012
; SOFTWARE: FEASESEQ FOR WINGOWS VERSION 4.0
; SEQ ID NO 75755
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1 Sequence 75758, Application US/09949016

2 Sequence 75758, Application US/09949016

3 Sequence 75758, Application US/09949016

3 Fater No. 6812339

3 GENERAL INFORMATION:

4 APPLICANT: VENTER, J. Craig et al.

7 TITLE OF INVENTION: POLYMORPHISMS IN KNOWN GENES ASSOCIATED

7 TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF

7 TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF

7 CURRENT APPLICATION NUMBER: 60/241,755

8 PRIOR FILING DATE: 2000-10-20

7 PRIOR PELING DATE: 2000-10-03

8 PRIOR PLING DATE: 2000-10-03

8 PRIOR PLING DATE: 2000-10-03

9 PRIOR PLING DATE: 2000-10-03
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Pred. No. 3.88+02;
0; Mismatches 3; Indels C
                                                                                                                                                         Query Match 76.0%; Score 15.2; DB 4; Length 20; Best Local Similarity 85.0%; Pred. No. 2.8e+02; Matches 17; Conservative 0; Mismatches 3; Indels
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: synthesized sequence
US-09-786-532-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       238 GGGGACAACGATCAGGGGTG 219
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85.0%;
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Best Local Similarity 85.0
Matches 17; Conservative
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US-09-949-016-75758
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US-09-027-169-3/C
US-09-027-169-3/C
Sequence 3, Application US/09027169
; Patent No. 6420524
; Patent No. 6420524
; Patent No. 6420524
; TUTLE OF INVENTION: GAIN OF FUNCTION MUTATIONS IN
TITLE OF INVENTION: APP-DEPENDENT TRANSPOSITION PROTEINS
NUMBER OF SEQUENCES: 15
CORRESPONDENCE ADDRESS:
STREET: 3605 Glenwood Ave.
CITY: Raleigh
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Length 601;
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FRNTION: No. 6743619el Nucleic Acids and
FRNTION: Polypeptides
 Score 15.2; DB 4;
Pred. No. 3.8e+02;
0; Mismatches 3;
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Pred. No. 4.5e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
76.0%; Score 15.2; D
Best Local Similarity 85.0%; Pred. No. 4.5e
Matches 17; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Drmanac, Radoje T.
TITLE OF INVENTION: No. 6743619el Nucleic A.
TITLE REPRENCE: 802
CURRENT APPLICATION NUMBER: US/09/774,528
CURRENT FILING DATE: 2001-01-30
NUMBER OF SEQ ID NOS: 441
SEQ ID NO 217
                                                                                                                                                                                                      Sequence 217, Application US/09774528 Patent No. 6743619 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   818 GGGGTCAAAGTTCATGGTGG 799
                                                                                                                  238 GGGGACAACGATCAGGGGTG 219
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   Query Match 76.0%;
Best Local Similarity 85.0%;
Matches 17; Conservative
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COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                Tang, Y. Tom
Zhou, Ping
Goodrich, Ryle
Liu, Chenghua
Asundi, Vinod
Ren, Feiyan
Zhang, Jie
Zhao, Qing A.
Yang, Yonghong
Xue, Aidong J.
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Wang, Dunrui
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Query Match
Best Local Similarity 85.0%
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Best Local Similarity 85.0
Matches 17; Conservative
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; ORGANISM: Human
US-09-949-016-13937
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ORGANISM: Human
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US-09-027-169-4/C

US-09-027-169-4/C

US-09-027-169-4/C

Sequence 4, Application US/09027169

Patent No. 642024

GENERAL INFORMATION:

APPLICANT: CRAIG, NANCY L

TITLE OF INVENTION: APP-DEPENDENT TRANSPOSITION PROTEINS

NUMBER OF SEQUENCES: 15

CORRESSONDENCE ADDRESS:

ADDRESSEE: Anne Brown (Alaton & Bird, LLP)

STREET: 3605 Glenwood Ave.

CITY: Raleigh

STATE: NO.

COUNTRY: USA

ZIP: 2760

COUNTRY: USA

ZIP: 18M PC compatible

COMPUTER: IBM PC compatible

COMPUTER: IBM PC compatible

COMPUTER: TREADABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: BEADABLE FORM:

MEDIUM TYPE: PatentIn Release #1.0, Version #1.30

CURRATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: PatentIn Release #10, Version #1.30

CLASSIFICATION NUMBER: US/09/027,169

FILING DATE:

CLASSIFICATION NUMBER: 36.463

REFERENCE/DOCKET NUMBER: 5789-3

TELECOMMUNICATION INFORMATION:

TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match 76.0%; Score 15.2; DB 3; Length 5926; Best Local Similarity 85.0%; Pred. No. 4.5e+02; Matches 17; Conservative 0; Mismatches 3; Indels 0
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/027,169
FILING DATE:
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Brown, Anne
REGISTRATION NUMBER: 36,463
REGISTRATION NUMBER: 36,463
REGISTRATION NUMBER: 37,69-3
TELECOMMUNICATION INFORMATION:
TELEPHONE: 919 420 2205
TELEPHONE: 919 881 3175
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
LEMETHY: 1916 10 NO: 3:
REGULAR OF SEQ ID NO: 3:
REGULAR O
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TOPOLOGY: circular
MOLECULE TYPE: other nucleic acid
DESCRIPTION: /desc = "pEm delta R.adj to 1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5729 GGGGTCGACCTGCAGGGGG 5710
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DESCRIPTION: /desc = "pEM-delta"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 GGGGTCAACGTTCAGGGGGG 20
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TYPE: nucleic acid
STRANDEDNESS: single
TOPOLOGY: circular
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STRANDEDNESS: single
TOPOLOGY: circular
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Sequence 13937, Application US/09949016

Sequence 13937, Application US/09949016

Retent No. 6812339

GENERAL INFORMATION:
TITLE OF INVENTEN, J. Craig et al.
TITLE OF INVENTION: POLYMORPHISMS IN KNOWN GENES ASSOCIATED

TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF

FILE REFERENCE: CLOOL307

CURRENT PILING DATE: 2000-04-14

PRIOR APPLICATION NUMBER: 60/241,755

PRIOR PILING DATE: 2000-10-20

PRIOR APPLICATION NUMBER: 60/231,768

PRIOR PILING DATE: 2000-10-03

PRIOR PILING DATE: 2000-09-08

NUMBER OF SEQ ID NOS: 2007012

SOFTWARE: FastSEQ for Windows Version 4.0

LENGTH. 12200

LENGTH. 12200
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Sequence 13939. Application US/09949016

Eatent No. 6812339

GENERAL INFORMATION:

APPLICANT: VENTER, J. Craig et al.

ITILE OF INVENTION: POLYMORPHISMS IN KNOWN GENES ASSOCIATED

TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF

FILE REPERBNCE: CL001307

CURRENT APPLICATION NUMBER: 60/241,755

PRIOR APPLICATION NUMBER: 60/241,755

PRIOR APPLICATION NUMBER: 60/231,768

PRIOR PILING DATE: 2000-10-03

PRIOR PILING DATE: 2000-10-03

PRIOR PLING DATE: 2000-10-03

PRIOR PLING DATE: 2000-10-03

SPIOR APPLICATION NUMBER: 60/231,498

NUMBER OF SEQ ID NOS: 207012

SOFTWARE: PRESEQ for Windows Version 4.0
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          76.0%; Score 15.2; DB 4; Length 13290; 85.0%; Pred. No. 4.9e+02; tive 0; Mismatches 3; Indels 0;
                                                   3; Indels
Score 15.2; DB 3;
Pred. No. 4.5e+02;
0; Mismatches 3;
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76.0%;
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Best Local Similarity 85.03
Matches 17; Conservative
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RESULT 29
US-09-248-796A-7911/c
Sequence 7911, Application US/09248796A
Sequence 7911, Application US/09248796A
Sequence 7911, Application US/09248796A
Sequence 7911, Application US/09248796A
GENERAL INFORMATION:
GENERAL INFORMATION:
TITLE OF INVENTION: FOR DIAGNOSTICS AND THERAPEUTICS
TITLE OF INVENTION: VOCAEIC ACID AND THERAPEUTICS
TITLE OF INVENTION: US 01/09/248,796A
CURRENT APPLICATION NUMBER: US 60/074,725
FRICH REPLIANG DATE: 1998-02-13
FRICH FILING DATE: 1998-08-13
FRICH RILING DATE: 1998-08-13
NUMBER OF SEQ ID NOS: 28208
SEQ ID NO 7911
                                                                                                                                                                                                                                         GENERAL INFORMATION:

APPLICANT: VENTER, J. Craig et al.

APPLICANT: VENTER, J. Craig et al.

TITLE OF INVENTION: POLYMORPHISMS IN KNOWN GENES ASSOCIATED

TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF FILE REPERENCE: CL001307

CURRENT APPLICATION NUMBER: us/09/949,016

CURRENT FILING DATE: 2000-10-20

PRIOR PILING DATE: 2000-10-20

PRIOR PILING DATE: 2000-10-3

PRIOR FILING DATE: 2000-10-3

PRIOR FILING DATE: 2000-03

PRIOR PILING DATE: 2000-09-08

PRIOR PILING DATE: 2000-09-08
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Pred. No. 5.9e+02;
0; Mismatches 3;
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SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 17590
LENGTH: 247299
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19-09-489-039A-2912/c
5. Sequence 2912, Application US/09489039A
; Patent No. 6610836
                                                                                                                                                                   ; sequence 17590, Application US/09949016; Patent No. 6812339
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2725 GGGTCCAGGTTGAGGGGG 2744
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity 85.0
Matches 17; Conservative
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US-09-949-016-17590
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US-09-949-016-15733

US-09-949-016-15733

Sequence 15733. Application US/09949016

Patent No. 681239

GENERAL INFORMATION:

APPLICANT: VERYER, J. Craig et al.

TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF

TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF

CURRENT PELING DATE: 2000-04-14

CURRENT PELING DATE: 2000-10-20

PRIOR FILING DATE: 2000-10-20

PRIOR FILING DATE: 2000-10-03

PRIOR FILING DATE: 2000-09-08

PRIOR FILING DATE: 2000-09-08

PRIOR FILING DATE: 2000-09-08

NUMBER OF SEQ ID NOS: 207012

SEQ ID NO 15733

LENGTH: 84587

TUBER OF THE OFFICE OFFIC
                                                                                                                                                     US-09-949-016-13508/c

1S-09-949-016-13508/c

Sequence 13508, Application US/09949016

Sequence 13508, Application US/09949016

Sequence 13508, Application US/09949016

SEQUENCE IN CONTENTION: DOLYMORPHISMS IN KNOWN GENES ASSOCIATED

TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF

TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF

CURRENT FILING DATE: 2000-04-14

PRIOR APPLICATION NUMBER: 60/241,755

PRIOR PLILNG DATE: 2000-10-20

PRIOR PLILNG DATE: 2000-10-03

PRIOR PLILNG DATE: 2000-10-03

PRIOR PLILNG DATE: 2000-09-08

NUMBER OF SEQ ID NOS: 207012

SEQ ID NO 13508

LENGTH: 46244
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76.0%; Score 15.2; DB 4;
Best Local Similarity 85.0%; Pred. No. 5.6e+02;
Matches 17; Conservative 0; Mismatches 3;
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                                           6664 degenchacearcaedere 6645
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| LOCATION: (1)...(84587)
| OTHER INFORMATION: n = A,T,C or G
US-09-949-016-15733
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Matches 17; Conservative
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GENERAL INFORMATION:

APPLICANT: Gary Breton et. al

TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO KLEBSIELLA
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO KLEBSIELLA
TITLE OF INVENTION: PREUMONIAE FOR DIAGNOSTICS AND THERAPEUTICS
FILE REFERENCE: 2709.2004001
CURRENT PELLING NATE: 2000-01-27
PRIOR APPLICATION NUMBER: US 60/117,747
PRIOR FILING DATE: 1999-01-29
NUMBER OF SEQ ID NOS: 14342
SEQ ID NO 2912
LENGTH: 324
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 317 GGGTCAACGTGCAGGCG 300
                                                                                                                                                                                                                                                                                                               TYPE: DNA
CRGANISM: Klebsiella pneumoniae
US-09-489-039A-2912
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                                100.0%; Score 20; DB 10; Length 20; 100.0%; Pred. No. 2.7;
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                                                                                                                                                                                                                                                                            APPLICANT: Krieg, Arthur M.
APPLICANT: Krieg, Arthur M.
APPLICANT: Steinherg, Alfred D.
TITLE OF INVENTION: IMMUNMONDULATORY OLIGONUCLEOTIDES
TITLE OF INVENTION: IMMUNMONDULATORY OLIGONUCLEOTIDES
FILE REFERENCE: C1039/7029
CURRENT APPLICATION NUMBER: US/10/631,676
CURRENT APPLICATION NUMBER: US/08/386,063
PRIOR APPLICATION NUMBER: US 08/386,063
PRIOR FILING DATE: 1995-02-07
NUMBER OF SEQ ID NOS: 27
SEQ ID NO 1
IENGTH: 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 1, Application US/10789051
; Publication No. US20040142469A1
; GENERAL INFORMATION:
   APPLICANT: Krieg, Arthur M.
; APPLICANT: Klinman, Dennis
; APPLICANT: Steinberg, Alfred D.
; TILLE OF INVENTION: INWUNNOMULATORY OLIGONUCLEOTIDES
; TILLE REPERENCE: C1039/7029
; CURRENT APPLICATION NUMBER: US/10/789,051
; CURRENT FILING DATE: 1995-02-07
; NUMBER OF SEQ ID NOS: 27
; NUMBER: FABLEGE for Windows Version 3.0
; SEG ID NOS: 27
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100.0%; Score 20; DB 19;
Best Local Similarity 100.0%; Pred. No. 2.7;
Matches 20; Conservative 0; Mismatches 0;
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; OTHER INFORMATION: Synthetic oligonucleotide
US-10-631-676-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ; FEATURE:
; OTHER INFORMATION: Synthetic oligonucleotide
US-10-789-051-1
                                                                     0; Mismatches
                                                                                                                                1 GGGGTCAACGTTCAGGGGGG 20
                                                                                                                                                                                                                              Sequence 1, Application US/10631676 Publication No. US20040087534A1 GENERAL INFORMATION:
                                                                                                         1 GGGGTCAACGTTCAGGGGGG 20
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Best Local Similarity 100.0%;
Matches 20; Conservative 0
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ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORGANISM: Artificial Sequence
                                Query Match
Best Local Similarity 100.
Matches 20; Conservative
US-09-931-583-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: DNA
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Fublication No. US20030050263A1

GENERAL INFORMATION:

APPLICANT: Kilmman, Dennis

APPLICANT: Steinberg, Alfred

TITLE OF INVENTION: Methods and Products for Treating HIV Infection

FILE REFERENCE: C1039/7053 (HCL)

CURRENT APPLICATION NUMBER: US/09/931,583

CURRENT APPLICATION NUMBER: US/09/931,583

FRIOR APPLICATION NUMBER: US/09/931,583

PRIOR FILING DATE: 1994-07-15

PRIOR FILING DATE: 1999-10-09

NUMBER OF SEQ ID NOS: 75

SEQ ID NO 1

SEQ ID NO 1

LENGTH: 20
                                                                       Sequence 518,
Sequence 495,
Sequence 518,
Sequence 518,
Sequence 518,
Sequence 46,
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                  Sequence Sequence Sequence
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                                                                                                                                                                                                                                                                                                Sequencial, Application US/09415142;
Publication No. US20030026782A1
GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Krieg, Arthur M.
APPLICANT: Steinberg, Alfred D.
FITUE OF INVENTION: IMMINOMODULATORY OLIGONUCLEOTIDES
FILE REFERENCE: C1039/7029
CURRENT APPLICATION NUMBER: US/09/415,142
CURRENT APPLICATION NUMBER: US 08/386,063
FRIOR PRIOR APPLICATION NUMBER: US 08/386,063
FRIOR FLING DATE: 1995-02-07
NUMBER OF SEQ ID NOS: 27
SOFTWARE: FastSEQ for Windows Version 3.0
IENGTH: 20
US-10-314-578-1004
US-10-831-778-1004
US-11-056-463-156
US-09-776-479-518
US-09-776-479-518
US-10-112-653-495
US-10-017-995-518
US-10-314-578-518
US-10-314-578-518
US-10-194-035-46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FEATURE:
NAME/KEY: misc_feature
OTHER INFORMATION: Synthetic Oligonucleotide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FEATURE: OTHER INFORMATION: Synthetic oligonucleotide
                                                                                                                                                                                                                     ALIGNMENTS
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ORGANISM: Artificial Sequence
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ORGANISM: Artificial Sequence
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Matches 20; Conserv
   US-09-931-583-1
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   Query Match
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Length 20;
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APPLICANT: Krieg, Arthur M.
APPLICANT: Kliman Dennia
APPLICANT: Kliman Dennia
APPLICANT: Kliman Dennia
TITLE OF INVENTION: IMMUNOMDULATORY OLIGONUCLEOTIDES
FILE REFERENCE: C1039/7029
CURRENT APPLICATION NUMBER: US/10/789, 536
CURRENT FILING DATE: 2004-02-26
FRIOR PELICATION NUMBER: US 08/386, 063
FRIOR PELICATION NUMBER: US 08/386, 063
FRIOR FILING DATE: 1995-02-07
NUMBER OF SEQ ID NOS: 27
SOFTWARE PARTSEQ for Windows Version 3.0
SEQ ID NO 1
LENGTH: 20
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APPLICANT: Steinberg, Alfred D.
TITLE OF INVENTION: IMMUNOMODULATORY OLIGONUCLEOTIDES
FILE REFERENCE: C1039/7029
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100.0%; Score 20; DB 19;
Best Local Similarity 100.0%; Pred. No. 2.7;
Matches 20; Conservative 0; Mismatches 0;
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100.0%; Pred. No. 2.7;
ive 0; Mismatches 0;
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, OTHER INFORMATION: Synthetic oligonucleotide US-10-769-626-1
                                                                                                                                                                                                                                                                                                                                                                     OTHER INFORMATION: Synthetic oligonucleotide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 1, Application US/10789353; Publication No. US2040162262A1; GENERAL INFORMATION: APPLICANT: Krieg, Arthur M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 GGGGTCAACGTTCAGGGGGG 20
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ORGANISM: Artificial Sequence
Publication No. US20040152657A1
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Matches 20; Conservative
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US-10-789-353-1
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US-10-769-626-1
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100.0%; Score 20; DB 19; Length 20;
Best Local Similarity 100.0%; Pred. No. 2.7;
Matches 20; Conservative 0; Mismatches 0; Indels
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APPLICANT: Klinman, Dennis
APPLICANT: Steinberg, Alfred D.
TILE ON TILE STEINBERGE INTERESTRATION INWINDOMODULATORY OLIGONUCLEOTIDES
FILE REFERENCE: CL039/7029
CURRENT APPLICATION NUMBER: US/10/788,191
CURRENT FILING DATE: 2004-02-26
PRIOR APPLICATION NUMBER: US 08/386,063
PRIOR PILING DATE: 1995-02-07
NUMBER OF SEQ ID NOS: 27
SOFTWARE: FARELSEQ for Windows Version 3.0
LENGTH: 20
                                                                                                                                                                               APPLICANT: KILDMAN, Dennis
APPLICANT: KILDMAN, Dennis
APPLICANT: Steinberg, Alfred D.
TITLE OF INVENTION: INWUNOMOULATORY OLIGONUCLEOTIDES
FILE REFERENCE: C1039/7029
CURRENT APPLICATION NUMBER: US/10/690,495
CURRENT FILING DATE: 2003-10-21
PRIOR APPLICATION NUMBER: US 08/386,063
FROR FILING DATE: 1995-02-07
NUMBER OF SEQ ID NOS: 27
SOPTWARE: FASEEQ for Windows Version 3.0
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US-10-788-191-1
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                                                                                                                     Sequence 1, Application US/10690495 Publication No. US20040143112A1 GENERAL INFORMATION:
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Publication No. US20040152656A1
GENERAL INFORMATION:
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Best Local Similarity 100.0%;
Matches 20; Conservative 0
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US-10-788-191-1
                                                                                                        US-10-690-495-1
                                                                                                                                                                                                                                                                                                                                                                                                                      SEQ ID NO 1
LENGTH: 20
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LENGTH: 20
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2.7;
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Publication No. US20040171150A1
GENERAL INFORMATION:
APPLICANT: Krieg, Arthur M.
APPLICANT: Steinberg, Alfred D.
TITLE OF INVENTION: IMMNOMOUULATORY OLIGONUCLEOTIDES
FILE REFERENCE: C1039/7029
CURRENT APPLICATION NUMBER: US/10/787,737
CURRENT PILING DATE: 2004-02-26
PRIOR APPLICATION NUMBER: US 08/386,063
PRIOR APPLICATION NUMBER: US 08/386,063
PRIOR APPLICATION NUMBER: US 08/386,063
PRIOR FILING DATE: 1995-02-07
NUMBER OF SEQ ID NOS: 27
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 1
LENGTH: 20
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APPLICANT: Klinman, Dennis
APPLICANT: Steinberg, Alfred D.
TITLE OF INVENTION: IMMUNOMOULATORY OLIGONUCLEOTIDES
TITLE OF INVENTION: IMMUNER: US/10/788,199
CURRENT APPLICATION NUMBER: US/04-02-26
PRIOR PILING DATE: 2004-02-26
PRIOR PILING DATE: 1995-02-07
PRIOR FILING DATE: 1995-02-07
NUMBER OF SEQ ID NOS: 27
SOFTWARE: FastSEQ for Windows Version 3.0
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Best Local Similarity 100.0%; Pred. No. 2.7;
Matches 20; Conservative 0; Mismatches
                                                                                                                                                                                                                                     ; OTHER INFORMATION: Synthetic oligonucleotide US-10-789-353-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ; FEATURE:
; OTHER INFORMATION: Synthetic oligonucleotide
US-10-787-737-1
                                                                                                                                                                                                                                                                                                              Query Match
100.0%; Score 20; DB
Best Local Similarity 100.0%; Pred. No. 2.7
Matches 20; Conservative 0; Mismatches
                  CURRENT FILING DATE: 2004-02-26
PRIOR APPLICATION NUMBER: US 08/386,063
PRIOR FILING DATE: 1995-02-07
NUMBER OF SEQ ID NOS: 27
SOFTWARE: PARLSEQ for Windows Version 3.0
SEQ ID NO 1
LENGTH: 20
CURRENT APPLICATION NUMBER: US/10/789,353
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; Sequence 1, Application US/10788199
; Publication No. US20040181045A1
; GENERAL INPORMATION:
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                                                                                                                                                                             TYPE: DNA
ORGANISM: Artificial Sequence
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Pred. No. 2.7;
                                                                                                Score 20; DB 19; Length 20;
Pred. No. 2.7;
                                                                                                                                    Indels
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                                                                                                                                                                                                                                                                                                                                   APPLICANT: Krieg, Arthur M.
APPLICANT: Klimman, Dennis
APPLICANT: Klimman, Dennis
APPLICANT: Steinberg, Alfred D.
TITLE OF INVENTION: IMMUNOMODULATORY OLIGONUCLEOTIDES
FILE REPERENCE: C1039/7029
CURRENT APPLICATION NUMBER: US/10/847,650
CURRENT APPLICATION NUMBER: US/8/10/847,650
FRIOR APPLICATION NUMBER: US/8/386,063
PRIOR APPLICATION NUMBER: US/8/386,063
PRIOR FILING DATE: 1995-02-07
NUMBER OF SEQ ID NOS: 27
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 1
LENGTH: 20
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v 100.0%; Pred. No. 4...
                                                ) OTHER INFORMATION: Synthetic oligonucleotide US-10-788-199-1
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, OTHER INFORMATION: Synthetic oligonucleotide
US-10-888-885-1
                                                                                                                                    Mismatches
                                                                                                                                                                                                                                                                                      Sequence 1, Application US/10847650 Publication No. US20050004062A1 GENERAL INFORMATION:
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                                                                                                  Query Match 100.0%; So
Best Local Similarity 100.0%; Pi
Matches 20; Conservative 0;
TYPE: DNA
ORGANISM: Artificial Sequence
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Best Local Similarity 100.
Matches 20; Conservative
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NAME/KEY: misc_feature
LOCATION: (0)...(0)
OTHER INFORMATION: chimeric phosphorothioate/phosphodiester backbone
COTHER INFORMATION: with phosphorothioate at 5' and 3' ends
US-09-888-126-436
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Sequence 437, Application US/09888326

Bublication No. US20030026801A1

GENERAL INFORMATION:

APPLICANT: Weiner, George

TITLE OF INVENTION: Methods for Enhancing Antibody-Induced

TITLE OF INVENTION: Methods for Enhancing Antibody-Induced

TITLE OF INVENTION: Methods for Enhancing Cancer

TITLE OF INVENTION: Methods for Enhancing Cancer

FILE REFERENCE: C1039/7052 (AWS)

CURRENT APPLICATION NUMBER: US/09/888,326

CURRENT FILIG DATE: 2001-06-22

NUMBER OF SEQ ID NOS: 848

SOFTWARRE: FastSEQ for Windows Version 3.0

LENGTH: 20
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100.0%; Score 20; DB 21; Length 20; llarity 100.0%; Pred. No. 2.7; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Weiner, George
APPLICANT: Weiner, George
APPLICANT: Hartmann, Gunther
APPLICANT: Hartmann, Gunther
TITLE OF INVENTION: Methods for Enhancing Antibody-Induced
TITLE OF INVENTION: Cell Lysis and Treating Cancer
FILE REFERENCE: C1039/7052 (AWS)
CURRENT APPLICATION NUMBER: US/09/888,326
CURRENT PILING DATE: 2001-06-22
PRIOR FILING DATE: 2000-06-22
PRIOR FILING DATE: 2000-06-22
NUMBER OF SEQ ID NOS: 848
SOFTWARE: FastSEQ for Windows Version 3.0
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NAME/KEY: misc_feature
LOCATION: (0)...(0)
OTHER INFORMATION: phosphorothioate backbone
US-09-888-326-437
                                                                                                                                                                                                                                                                            Sequence 436, Application US/09888326
Publication No. US20030026801A1
GENERAL INFORMATION:
                                                                                                           1 GGGGTCAACGTTCAGGGGGG 20
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TYPE: DNA ORGANISM: Artificial Sequence
                               Best Local Similarity
Matches 20; Conserva
                                                                                                                                                                                                                                                                 US-09-888-326-436
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LENGTH: 20
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Publication No. US20050037985A1
GENERAL INFORMATION:
APPLICANT: Krieg, Arthur
APPLICANT: Krieg, Arthur
APPLICANT: Klimman, Dennie
APPLICANT: Steinberg, Alfred
TITLE OF INVENTION: Methode and Products for Treating HIV Infection
FILE REFERENCE: C1039 70004US00
CURRENT APPLICATION NUMBER: US/10/649,584
CURRENT FILING DATE: 2003-08-25
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          Score 20; DB 21; Length 20; Pred. No. 2.7;
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Pred. No. 2.7;
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                                                                 0; Indels
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Sequence 1, Application US/1088089;
Publication No. US20050037403A1
GENERAL INFORMATION:
APPLICANT: Krieg, Arthur M.
APPLICANT: Steinberg, Alfred D.
TITLE OF INVENTION: IMMUNOMODULATORY OLIGONUCLEOTIDES;
FILE REFERENCE: C1039/7029
CURRENT APPLICATION NUMBER: US/10/699, 495
FILE REPERIOR: 2003-10-21
PRIOR FILING DATE: 2003-10-21
PRIOR FILING DATE: 1995-02-07
NUMBER OF SEQ ID NOS: 27
SOFTWARE: FREESE FREESE 27
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; OTHER INFORMATION: Synthetic Oligonucleotide
US-10-649-584-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match 100.0%; Score 20; DB Best Local Similarity 100.0%; Pred. No. 2.7 Matches 20; Conservative 0; Mismatches
             Query Match 100.0%; Score 20; DE Best Local Similarity 100.0%; Pred. No. 2.7 Matches 20; Conservative 0; Mismatches
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PRIOR APPLICATION NUMBER: US 09/931,583
PRIOR PILING DATE: 2001-08-16
PRIOR PILING DATE: 1994-07-15
PRIOR PELING DATE: 1994-07-15
PRIOR APPLICATION NUMBER: US 09/415,142
PRIOR APPLICATION NUMBER: US 09/415,142
PRIOR PILING DATE: 1999-10-09
NUMBER OF SEQ ID NOS: 74
SOFTWARE: PATENTIN VERSION 3.0
                                                                                                                      1 GGGGTCAACGTTCAGGGGGG 20
                                                                                                                                              1 GGGGTCAACGTTCAGGGGGG 20
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LENGTH: 20
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Best Local Similarity 95.0%; Pred. No. 18;
Matches 19; Conservative 0; Mismatches
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US-09-776-479-767
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US-09-776-479-968
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                                               Gaps
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APPLICANT: Kline, Joel N.
APPLICANT: Klinman, Dennis
APPLICANT: Klinman, Dennis
APPLICANT: Klinman, Dennis
TITLE OF INVENTION: Immunostimmlatory Nucleic Acid Molecules
FILE REFERENCE: C1039/7048 (AMS)
CURRENT FILENG DATE: 2001-03-27
PRIOR APPLICATION NUMBER: US 08/276,358
PRIOR APPLICATION NUMBER: US 08/276,358
PRIOR APPLICATION NUMBER: US 08/386,063
PRIOR FILING DATE: 1995-02-07
PRIOR FILING DATE: 1995-02-07
PRIOR FILING DATE: 1996-10-30
NUMBER OF SEQ ID NOS: 56
SOFTWARE: FastSEQ for Windows Version 3.0
LENGTH: 20
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Sequence 519, Application US/09776479

Publication No. US20030087848A1

GENERAL INFORMATION:

APPLICANT: Bratzler, Robert L.

APPLICANT: Petersen, Deanna M.

APPLICANT: Petersen, Deanna M.

TITLE OF INVENTION: Immunostimulatory Nucleic Acids for the TITLE OF INVENTION: Treatment of sethma and Allergy FILE REFERENCE: C1037/7013 (HCL/MAT)

CURRENT APPLICATION NUMBER: US/09/776,479

CURRENT APPLICATION NUMBER: US 60/179,991

PRIOR FILING DATE: 2000-02-03

NUMBER OF SEQ ID NOS: 1093

NUMBER OF SEQ ID NOS: 1093

SEQ ID NO 5:9
  Length 20;
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95.0%; Pred. No. 18;
tive 0; Mismatches 1;
  DB 10;
  Query Match 92.0%; Score 18.4; D
Best Local Similarity 95.0%; Pred. No. 18;
Matches 19; Conservative 0; Mismatches
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                                                                                                                                                                                                                                                    Sequence 12, Application US/09818918
Publication No. US20030050261A1
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ORGANISM: Artificial Sequence
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Matches 19; Conservative
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US-09-776-479-519
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92.0%; Score 18.4; DB 10; Length 20;

Query Match

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; Sequence 76', Application US/09776479
; Publication No. US20030087848A1
; Publicanton No. US20030087848A1
; APPLICANT: Bratzler, Robert L.
; APPLICANT: Fouron, Ves
; TITLE OF INVENTION: Immunostimulatory Nucleic Acids for the
; TITLE OF INVENTION: Treatment of Asthma and Allergy
; FILE REFERENCE: C1037/7013 (HCL/MAT)
; CURRENT APPLICATION NUMBER: US/09/776,479
; CURRENT APPLICATION NUMBER: US 60/179,991
; PRIOR FILING DATE: 2000-02-03
; SOFTWARE: FastSEQ for Windows Version 3.0
; SEQ ID NO 76';
: LENGTH: 20
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; Sequence 968, Application US20030087848A1
; General Information
; APPLICANT: Bratiler, Robert L.
; APPLICANT: Petersen, Deanna M.
; APPLICANT: Petersen, Deanna M.
; TITLE OF INVENTION: Immunostimulatory Nucleic Acids for the
; TITLE OF INVENTION: Treatment of Asthma and Allergy
; TITLE OF INVENTION: Treatment of Asthma and Allergy
; TITLE OF INVENTION: Treatment of Asthma and Allergy
; CURRENT APPLICATION NUMBER: US/09/776,479
; CURRENT FILING DATE: 2001-02-02
; PRIOR APPLICATION NUMBER: US/09/776,479
; PRIOR PELING DATE: 2000-02-03
; NUMBER OF SEQ ID NOS: 1093
; SEPTAMER: PRESEQ for Windows Version 3.0
; LENGTH: 20
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Pred. No. 18;
0; Mismatches 1;
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Best Local Similarity 95.0%; Pred. No. 18;
Matches 19; Conservative 0; Mismatches
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                                                                                 1 GGGGTCAACGTTGAGGGGGG 20
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Best Local Similarity 95.0%;
Matches 19; Conservative
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US-09-776-479-767
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; Sequence 3, Application US/09967464
; Publication No. US2003013453A1
; GENERAL INFORMATION:
; APPLICANT: O'Hagan, Derek
; APPLICANT: Otten, Gilish
; APPLICANT: Barnett, Sugan
; APPLICANT: Barnett, Sugan
; APPLICANT: Dubensky, Jr. Thomas W.
; APPLICANT: Dubensky, Jr. Thomas W.
; APPLICANT: Dubensky, Jr. Thomas W.
; APPLICANT: Ulmer, Jeffrey
; APPLICANT: Dubensky, Jr. Thomas W.
; APPLICANT: Ulmer, Jeffrey
; APPLICANT: Ulmer, Jeffrey
; APPLICANT: Ulmer, Jeffrey
; TITLE OF INVENITON NUMBER: G0/236,105
; FILS REFERENCE: PRICATION NUMBER: G0/236,105
; PRIOR PLLING DATE: 2001-08-30
; WUMBER OF SEQ ID NOS: 68
; SEQ ID NO 3
; SEQ ID NO 3
; LENTH: 20
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                                                                                                                                                                 GENERAL INFORMATION:

APPLICANT: Bratzler, Robert L.

APPLICANT: Bratzler, Robert L.

APPLICANT: Petersen, Deanna M.

APPLICANT: Petersen, Deanna M.

APPLICANT: Petersen, Deanna M.

TITLE OF INVENTION: Immunostimulatory Nucleic Acids for the

TITLE OF INVENTION: Immunostimulatory Nucleic Acids for the

TITLE OF INVENTION: Treatment of Asthma and Allergy

FILE REFERENCE: C1037/7013 (HCL/MAT);

CURRENT APPLICATION NUMBER: US/09/776,479

FRIOR APPLICATION NUMBER: US 60/179,991

PRIOR APPLICATION NUMBER: US 60/179,991

PRIOR PILING DATE: 2000-02-03

SOFTWARE: PastSEQ for Windows Version 3.0

LENGTH: 20
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 92.0%; Score 18.4; DB 10; Length 20; Best Local Similarity 95.0%; Pred. No. 18; Matches 19; Conservative 0; Mismatches 1; Indels
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Best Local Similarity 95.0%; Pred. No. 18;
Matches 19; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            , OTHER INFORMATION: Synthetic Sequence US-09-776-479-969
                                                                                                                          Sequence 969, Application US/09776479
Publication No. US20030087848A1
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1 GGGGTCAACGTTGAGGGGGG 20
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ORGANISM: Artificial Sequence
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                                                                                                     US-09-776-479-969
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Sequence 519, Application US/09776479

Sequence 519, Application US/09776479

CENERAL INFORMATION:

APPLICANT: Bratzler, Robert L.

APPLICANT: Breersen, Deanna M.

APPLICANT: Fouron, Yves

TITLE OF INVENTION: Immunostimulatory Nucleic Acids for the TITLE OF INVENTION: Treatment of Asthma and Allergy

FILE REFERENCE: C1037/7013 (HCL/MAT)

CURRENT APPLICATION NUMBER: US/09/776,479

CURRENT APPLICATION NUMBER: US 60/179,991

PRIOR FILING DATE: 2000-02-03

PRIOR FILING DATE: 2000-02-03

SOFTWARE: FastSEQ for Windows Version 3.0

SEQ ID NO 519

LENGTH: 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: Bratzler, Robert L.
APPLICANT: Petersen, Deanna M.
APPLICANT: Petersen, Deanna M.
APPLICANT: Pouron, Yves
TITLE OF INVENTION: Treatment of Asthma and Allergy
CURRENT APPLICATION NUMBER: US/09/776,479
CURRENT FILING DATE: 2001-02-02
PRIOR PELLING DATE: 2000-02-03
NUMBER OF SEQ ID NOS: 1093
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 767
LENGTH: 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
92.0%; Score 18.4; DB 11; Length 20;
Best Local Similarity 95.0%; Pred. No. 18;
Matches 19; Conservative 0; Mismatches 1: Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 20;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 18.4;
Pred. No. 18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; OTHER INFORMATION: Synthetic Sequence US-09-776-479-519
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ; OTHER INFORMATION: Synthetic Sequence US-09-776-479-767
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ; Sequence 767, Application US/09776479; Publication No. US20040067902A9; GENERAL INFORMATION:
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Best Local Similarity 95.0%;
Matches 19; Conservative C
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1 GGGGTCAACGTTCAGGGGGG 20

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APPLICANT: WL, Tong
TITLE OF INVENTION: Vectors and Methods for Immunization or
TITLE OF INVENTION: Vectors and Methods for Immunization or
TITLE OF INVENTION: Therapeutic Protocols
FILE REFERENCE: C1039/7057 (HCL/MAT)
CURRENT APPLICATION NUMBER: US/09/965,101
CURRENT APPLICATION NUMBER: US 09/082,649
PRIOR FILING DATE: 1998-05-20
PRIOR FILING DATE: 1998-05-20
PRIOR FILING DATE: 1997-05-20
PRIOR FILING DATE: 1997-05-20
PRIOR FILING DATE: 1997-05-20
PRIOR FILING DATE: 1997-05-20
NUMBER OF SEQ ID NOS: 84
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 52
LENGTH: 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; OTHER INFORMATION: Has a phosphorothicate backbone.
US-09-965-101-52
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        OTHER INFORMATION: synthetic oligonucleotide NAME/KEY: misc feature LOCATION: (0)...(0)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ch 92.0%; Score 18.4; D
1. Similarity 95.0%; Pred. No. 18;
19; Conservative 0; Mismatches
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ORGANISM: Artificial Sequence
Krieg, Arthur M. Schorr, Joachim
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LOCATION: (0)...(0)
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Best Local Similarity
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Sequence 969, Application US/09776479

Publication No. US20040067902A9

GENERAL INFORMATION:
APPLICANT: Bretailer. Robert L.
APPLICANT: Petersen, Deanna M.
APPLICANT: Petersen, Deanna M.
TITLE OF INVENTION: Treatment of Asthma and Allergy
FILE REFERENCE: C1037/710, 4479

CURRENT APPLICATION NUMBER: US/09/776,479

CURRENT APPLICATION NUMBER: US 60/176,991

PRIOR APPLICATION NUMBER: US 60/176,991

PRIOR PRILING DATE: 2000-02-03

NUMBER OF SEQ ID NOS: 1093

SOFTWARE: FastSEQ for Windows Version 3.0

LENGTH: 20
                    Sequence 968, Application US/09776479

Publication No. US20040067902A9

GENERAL INFORMATION:

APPLICANT: Bratzler, Robert L.

APPLICANT: Petersen, Deanna M.

APPLICANT: FOUTON, Yves

TITLE OF INVENTION: Immunostimulatory Nucleic Acids for the

TITLE OF INVENTION: Treatment of Asthma and Allergy

FILE REFERENCE: C1037/7013 (HCL/MAT)

CURRENT APPLICATION NUMBER: US/09/776,479

CURRENT FILING DATE: 2001-02-02

PRIOR FILING DATE: 2000-02-03
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match 92.0%; Score 18.4; DB 11; Length 20; Best Local Similarity 95.0%; Pred. No. 18; Astches 19; Conservative 0; Mismatches 1; Indels
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95.0%; Pred. No. 18;
tive 0; Mismatches 1;
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SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 968
LENGTH: 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           OTHER INFORMATION: Synthetic Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ; OTHER INFORMATION: Synthetic Sequence US-09-776-479-969
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 52, Application US/09865101; Publication No. US20040186067A1; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 GGGGTCAACGTTCAGGGGG 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 GGGTCAACGTTGAGGGGGG 20
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ORGANISM: Artificial Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    19; Conservative
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Matches 19; Conserve
     US-09-776-479-968
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-09-776-479-968
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US-09-776-479-969
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                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: DNA
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Gaps

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Indels

Length 20;

DB 11; ï

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OTHER INFORMATION: Has SOS-ODN backbone with two S-linkages at the 5' OTHER INFORMATION: end, five S-linkages at the 3' end, and O-linkages OTHER INFORMATION: in between.
                                                                                                           US-09-965-101-59

Sequence 59, Application US/09965101

Publication No. US20040186067A1

GENERAL INFORMATION:
APPLICANT: Barder L.
APPLICANT: Schorf, Joachim
APPLICANT: W. Tong
TITLE OF INVENTION: Vectors and Methods for Immunization or
TITLE OF INVENTION: Vectors and Methods for Immunization or
FILE REFERENCE: C1039/7057 (HCL/MAT)
CURRENT APPLICATION NUMBER: US/09/965,101
CURRENT FILING DATE: 1901-09-26
PRIOR APPLICATION NUMBER: US 60/047,233
PRIOR FILING DATE: 1997-05-20
PRIOR APPLICATION NUMBER: US 60/047,209
PRIOR RILING DATE: 1997-05-20
PRIOR PILING DATE: 1997-05-20
PRIOR PILING DATE: 1997-05-20

PRIOR PILING DATE: 1997-05-20

NUMBER OF SEQ ID NOS: 84

SOFTWARE: FastSEQ for Windows Version 3.0

LENGTH: 20

WANDER OF SEQ ID NO 59
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Best Local Similarity 95.0%; Pred. No. 18;
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; Sequence 496, Application US/10112653
; Sequence 496, Arbur V.
; GENERAL INFORMATION:
; APPLICANT: KAIE9, Arbur M.
; APPLICANT: Berg, Daniel J.
; TITLE OF INVENTION: IMMUNOSTIMULATORY NUCLEIC ACID FOR
; TITLE OF INVENTION: IMMUNOSTIMULATORY NUCLEIC ACID FOR
; TITLE OF INVENTION: TREATMENT OF NON-ALLERGIC INFLAMMATORY DISEASES
; TITLE OF INVENTION: TREATMENT OF NON-ALLERGIC INFLAMMATORY DISEASES
; FILE REFERENCE: CO1039/70060(ANS);
CURRENT FILING DATE: 2002-03-29
; PRIOR FILING DATE: 2001-03-29
; NUMBER OF SEQ ID NOS: 1040
; SOFTWARE: FastSEQ for Windows Version 3.0
; SEQ ID NO 496
; LENGTH: 20
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0; Gaps
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  1; Indels
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; OTHER INFORMATION: Synthetic Oligonucleotide US-10-112-653-496
  0; Mismatches
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                                                 1 GGGGTCAACGTTCAGGGGG 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TYPE: DNA
ORGANISM: Artificial Sequence
  19; Conservative
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US-10-112-653-496
       Matches
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Search completed: September 3, 2005, 10:09:04 Job time: 587.286 secs

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GenCore Copyright (c) 1993	OM nucleic - nucleic search, using sw model Run on: September 3, 2005, 07:03:09; Search time 2972 (without alignments) 256.103 Million cell	Title: US-10-789-536-1 Perfect score: 20 Sequence: 1 9999tcaacgttca999999 20	Scoring table: IDENTITY NUC Gapop 10.0 , Gapext 1.0	Searched: 34239544 BeqB, 19032134700 reBidues Total number of hits Batisfying chosen parameters: 6847908	um DB seq length: 0 um DB seq length: 200000000	Post-processing: Minimum Match 0% Maximum Match 100% Listing first 90 summaries	ES.	gb_htc: gb_eat3	6: gb_eat5:* 7: gb_eat6:* 8: gb_gsal:* 9: gb_gsa2:*	of results predicted by equal to the score of theis of the score score	SUMWARIES Y h Length DB ID	18.4 92.0 414 5 BX678404 18.4 92.0 558 5 BX253788	3 17.4 87.0 501 1 AV723435 4 17.4 87.0 692 9 CG143495 5 17.4 87.0 692 9 CG143495	6 17.4 87.0 708 2 BB629098 7 17.4 87.0 721 8 AQ414593 7 7 7 87.0 804 BUCKEA7	1.14 0.15 0.34 0.175.031 9 16.8 84.0 2.23 7 CF389170 10 16.8 84.0 243 2 BE643702	11 16.8 84.0 336 2 BB532888 12 16.8 84.0 341 2 AW888010	13 16.8 84.0 363 2 BF51c817 14 16.8 84.0 381 5 BQ701308 15 16.8 84.0 388 5 BX678528	C 16 16.8 84.0 395 2 AW289674 AW C 17 16.8 84.0 395 6 CD028242 CD C 18 16.8 84.0 457 2 BQ655830 C 19 16.8 84.0 477 5 BQ655830 C 20 16.8 84.0 491 5 BQ702629	21 16.8 84.0 492 5 BQ700582 22 16.8 84.0 495 7 CF192169 23 16.8 84.0 505 1 AIB13183 24 16.8 84.0 505 2 AW985091

NXSI 031 625871 031 625871 05 625871 05 839 10510 839 10

BF51774 BGA354197 BGA354197 BGA354197 BGA354197 BA556997 CF473102 CF473102 CF401619 BX253042 BX253042 BX253042 BX253042 BX253042 BY3553 CG199154 CG196154 CG196155 CG19615 CG19

BF517774
CCA354197
AA5569975
CCF673102
BXA557077
CCF673102
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CCF673105
CCF6731

ALIGNMENTS

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/tissue_type="dditferenciating xylem"
/dev_stage="addit"
/clone lib="Pinus pinaster differenciating xylem adult"
/clone lib="Pinus pinaster differenciating xylem adult"
/note="vector: Uni-Zap XR lambda (Stratagene); Site_l: Eco
RI; Site_2: Xho I; A composite cDNA library was made with
mRNA isolated from normal, compression, opposite, early
and late wood of Maritime pine uni-directionally cloned
into Uni-ZAP XR using the ZAP-CDNA Synthesis kit
(Stratagene): pBluescript SK(-) plasmids were obtained by
in vivo mass excision: The nuclectide sequence of the
5'end was obtained by automated sequence of the
5'end was obtained by automated sequencing with the T3
primer by GENOME EXPRESS, Meylan, France"
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The Institute of Physical and Chemical Research (RIKEN)
1-7-22 Suehiro-cho, Tsurumi-ku, Yokohama, Kanagawa 230-0045, Japan Tel: 81-45-503-9226
Fax: 81-45-503-9216
Email: genome-reseggsc.riken.jp, URL:http://genome.gsc.riken.jp/
Sassaki,N., Izawa,M., Watahiki,M., Ozawa,K., Tanaka,T., Yoneda,Y.,
Hayashizaki,Y. and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AV294749

AV294749 RIKEN full-length enriched, 6 days embryo Mus musculus CDNA clone 5630401A06 3' similar to AJ011304 Homo sapiens mRNA for sphingosine-1-phosphate lyase, mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Transcriptional sequencing: A method for DNA sequencing using RNA polymerase. Proc. Natl. Acad. Sci. U.S.A. 95 (7), 3455-3460 (1998) Itch,M., Kitsunai,T., Akiyama,J., Shibata,K., Izawa,M., Kawai,J., Tomaru,Y., Carminci,P., Shibata,Y., Ozawa,Y., Muramatsu,M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  92.0%; Score 18.4; DB 5; 95.0%; Pred. No. 1.5e+02; cive 0; Mismatches 1;
                                                                                                                                                                                                  /mol_type="mRNA"
/strain="ecotype: Corsican"
                                                                                                                                                                organism="Pinus pinaster"
                  Email: Frigerio@pierroton.inra.fr
Email: Frigerio@pierroton.inra.fr.
Location/Qualifiers
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Best Local Similarity 95.0
Matches 19; Conservative
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                                                                                                                                  source
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//clone_libe_RRS...
//clone_libe_RRS...
//clone_libe_RRS...
//note="Vector: Uni-ZAP XR; ecotype: Landes; The library was made from the roots of 6 weeks old seedlings grown in hydroponic conditions. A three weeks drought stress treatment was applied by lowering the osmotic potential of the nutrient solution to -0.45 MPa using 170 g/l of polyethylene glycol as an osmoticum. A mixture of genotypes were used. Oligo-dT primed cDNA was directionally cloned into the EcoRI-Xhol lambda-ZAP vector arms and mass-excised to form a pBluescript phagemid"
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BX253788 Pinus pinaster differenciating xylem adult Pinus pinaster
EX253788
                      EST 28-OCT-2003
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                                                                                                                                                                                                                                   Pinus pinaster

Bukaryota, Viridiplantae, Streptophyta, Embryophyta, Tracheophyta, Spermatophyta, Coniferopsida, Coniferales, Pinaceae, Pinus, 1 (Septice), and Plomion, C.

Frigerio, J. and Plomion, C.

Identification of water-deficit responsive genes in Maritime pine (Pinus pinaster Ait.) using an EST approach

Contact: Frigerio JM

Genetique et Amelioration 69
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Spermatophyta; Conferopaida; Coniferales; Pinaceae; Pinus; Pinus.
1. (bases 1 to 558)
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Transcriptone analysis of wood formation in maritime pine Unpublished (2003)
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ыхв/8404
BX678404 RS Pinus pinaster CDNA clone RS08F09, mRNA sequence.
BX678404
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/mol_type="mRNA"
/db_xref="taxon.71647"
/clone="RSO8F09"
/tissue_type="root"
/dev_stage="6 weeks old seedling"
/lab_host="SOLR"
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Email: Frigerio@pierroton.inra.fr
Seq primer: T3.
Location/Qualifiers
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Matches 19; Conservative
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Length 558; 1; Indels EST 10-NOV-1999

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CG143495 GP_0.6_1.0_KB Zea mays genomic clone ZMMBTa0584L09,
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1 (bases 1 to 692)
Whitelaw, C.A., Quackenbush, J., Van Aken, S., Utterback, T., Besnick, A., Fraser, C.M., Yuan, Y., San Miguel, P., Ma, J. and Bennetzen, J.
1. .437
/organism="Lotus corniculatus var. japonicus"
/mol type="mRNA"
/isolate="miyakojima MG-20"
/db_xref="texon:34305"
/clone="wPD03610_f"
/tissue type="Pods (20-30 mm in length)"
/clone lib="Lotus japonicus Pods (20-30 mm in length)"
/note="Vector: pBluescriptII SK-; Site_1: EcoRI; Site_2: Xho!"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /db_xref="taxon:4577"
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/clone="tlb="zM_0=1.0" KB"
/note="Vector: pCR4-TOPO; Site_1: EcoRI; 0.6-1.0 kb high
COT selected genomic DNA library"
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                                                                                                                                                                                                                                                                                             Length 437;
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Fax: 301-838-0208
Email: whitelaw@tigr.org
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Pred. No. 4.8e+02;
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Pred. No. 5.1e+02;
0; Mismatches 1;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /organism="Zea mays"
/mol_type="genomic DNA"
/strain="B73"
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Unpublished (2003)
Other GSSs: PUIHM65TD
Contact: Cathy Whitelaw
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CG143495.1 GI:34034278
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94.7%;
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Best Local Similarity 94.7%;
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Best Local Similarity
Matches 18; Conserv
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//dev stage="6 days embryo"
//lab_host=="blton"
//lab_host=="blton"
//clone="ishe" is ali; Site_2: BamHi; cDNA library was
//note="site_1: Sali; Site_2: BamHi; cDNA library was
//note="site_1: Sali; Site_2: BamHi; cDNA library was
//note="site_1: Sali; Site_2: BamHi; cDNA library was
prepared and sequenced in Mouse Genome Encyclopedia
Project of Genome Exploration Research Group in Riken
Genomic Sciences Center and Genome Science Laboratory in
RIKEN. Division of Experimental Animal Research in Riken
contributed to prepare mouse tissues. lst strand cDNA was
primed with a primer [5,
GAGAGAGAGAGACCCAAGAGCTCTTTTTTTTTTTTTV 3'], cDNA was
prepared by using trehalose thermo-activated reverse
transcriptase and subsequently enriched for full-length by
cap-trapper. CDNA went through one round of subtraction to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Asamizu, E., Nakamura, Y., Sato, S. and Tabata, S.
Characteristics of the Lotus japonicus Gene Repertoire Deduced from Large-Scale Expressed Sequence Tag (EST) Analysis
Plant Mol. Biol. 54 (3), 405-414 (2004)
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Kazusa DNA Research Institute
Kazusa DNA Research Institute
Yana 1532-3, Kisarazu, Chiba 292-0812, Japan
Email: asamizu@kazusa.or.jp, URL:http://www.kazusa.or.jp/en/plant/.
Location/Qualifiers
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Lotus corniculatus var. japonicus
Lotus corniculatus var. japonicus
Lotus corniculatus var. japonicus
Straptoophyta, Embryophyta, Tracheophyta,
Spermatophyta, Magnoliophyta, eudicotyledons, core eudicots,
rosids; eurosids I; Fabales; Fabaceae; Papilionoideae; Loteae;
      Okazaki,Y. and Hayashizaki,Y.
Automated filtration-based high-throughput plasmid preparation system. Genome Res. 9 (5), 463-470 (1999)
Carninci,P. and Hayashizaki,Y.
High-efficiency full-length cDNA cloning. Methods Enzymol. 303, 19-44 (1999)
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AV772436 Lotus japonicus Pods (20-30 mm in length) Lotus
corniculatus var. japonicus cDNA clone MPD036a10_£ 3', mRNA
                                                                                                                                                              Please visit our web site (http://genome.rtc.riken.go.jp)
further details.
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87.0%; Score 17.4; DB 1; Length 281;
Best Local Similarity 94.7%; Pred. No. 4.5e+02;
Matches 18; Conservative 0; Mismatches 1; Indels (
                                                                                                                                                                                                                                                        'organism="Mus musculus"
                                                                                                                                                                                                                                                                                                                         db_xref="taxon:10090"
clone="5630401A06"
                                                                                                                                                                                                             Location/Qualifiers
                                                                                                                                                                                                                                                                               /mol_type="mRNA"
/strain="C57BL/6J"
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                                                                                                                                                                                                                                                                                                                                                                       "sex="mixed"
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391
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                                                                                                                                                                                                    Eukaryota, Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.

1. (Daees 1 to 708)

2. Arakawa,T., Carninci,P., Fukuda,S., Furuno,M., Hanagaki,T., Haramoto,K., Hori,F., Ishii,Y., Ito,M., Kawai,J., Konno,H., Kouda,M., Koya,S., Matsuyama,T., Miyazaki,A., Nomura,K., Ohno,M., Okazaki,Y., Okido,T., Salto,R., Sakai,R., Sano,H., Sasaki,D., Shibata,K., Shinagawa,A., Shiraki,T., Sano,H., Sasaki,D., Shibata,K., Shinagawa,A., Takahashi,F., Takeda,Y., Tanaka,T., Muramatsu,M. and Hayashizaki,Y. RIKEN Mouse ESTS (Arakawa,T., et al. 2001)

L. Ontact: Yoshihide Hayashizaki
Laboratory for Genome Exploration Research Group, RIKEN Genomic Sciences Center (GSC), Yokohama Institute
The Institute of Physical and Chemical Research (RIKEN)
1-7-22 Suehiro-cho, Tsurumi-ku, Yokohama, Kanagawa 230-0045, Japan Tel: 81-45-503-9216
Email: genome-reseagec.riken.jp, URL:http://genome-gec.riken.jp/
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BB629098 RIKEN full-length enriched, 16 days neonate cerebellum Mus
musculus cDNA clone 9630050J24 5', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Email: genome-reseggsc.riken.jp, URL:http://genome.gsc.riken.jp/
Carninci,P., Shibata,Y., Hayatsu,N., Sugahara,Y., Shibata,K.,
Itoh,M., Konno,H., Okazaki,Y., Muramatsu,M. and Hayashizaki,Y.
Normalization and subtraction of cap-trapper-selected cDNAs to
prepare full-length cDNA libraries for rapid discovery of new
genes. Genome Res. 10 (10), 1617-1630 (2000)
Wadi,K., Fujiwake,S., Inoue,K., Togawa,Y., Izawa,M., Ohara,E.,
Matahiki,M., Yoneda,Y., Ishikawa,T., Ozawa,K., Tanaka,T.,
and Hayashizaki,Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RIKEN integrated sequence analysis (RISA) system--384-format sequencing pipeline with 384 multicapillary sequencer. Genome Res. 10 (11), 1757-1711 (2000)
Konno, H., Fukunishi, Y., Shibata, K., Itoh, M., Carninci, P., Sugahara, Y. and Hayashizaki, Y.
Computer-based methods for the mouse full-length cDNA encyclopedia: real-time sequence clustering for construction of a nonredundant cDNA library. Genome Res. . 11 (2), 281-289 (2001) Kondo, S., Shinagawa, M., Saito, T., Kiyosawa, H., Yamanaka, I., Aizawa, K., Fukuda, S., Hara, A., Itoh, M., Kawai, J., Shibata, K. and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /clone lib="RIKEN full-length enriched, 16 days neonate
cerebellum"
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/dev_stage="16 days neonate"
/lab_host="DH108"
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db_xref="taxon:10090"
clone="9630050J24"
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                                                                                        BB629098.1 GI:16466342
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Clones are derived from the human BAC library RPCI-11. For BAC

library availability, please contact Pieter de Jong

(pieter@dejong.med.buffalo.edu). Clones may be purchased from

ABCRPR Reseource (http://pacpac.med.buffalo.edu/ordering) or from

Research Genet cs (inf@vesgen.com). BAC end search page:

http://www.tigr.org/tdb/humgen/bac_end_search/bac_end_search.html.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

(Dases 1 to 721)
Zhao,S., Adams,M.D., Nierman,W., Malek,J., de Jong,P. and Venter,J.C.
Use of BAC End Sequences from Library RPCI-11 for Sequence-Ready
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /cell_type="Lymphocytes"
/clone_lib="RPC1-11"
/note="Vector: pBACe3.6; Site_1: EcoR1; Site_2: EcoR1;
RPC111 Human Male BAC Library"
                                                                                                                                                                                                                                                               Gaps
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                                                                                                                                                                                                                    Length 708;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Unpublished (1997)
Unpublished (1997)
Contact: Shaying Zhao, William Nierman, Mark Adams
Copartment of Eukaryotic Genomics
The Institute for Genomic Research
9712 Medical Center Dr., Rockville, MD 20850
Fax: 301 838 0200
Fax: 301 838 0208
                                                                                                                                                                                                                                                               1; Indels
                                                                                                                                                                                                                  87.0%; Score 17.4; DB 2;
94.7%; Pred. No. 5.1e+02;
iive 0; Mismatches 1;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /mol_type="genomic DNA"
/db_xref="GDB:7563272"
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/clone="RPCI-11-165M9"
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                                                                                                                                                                                                                                                               18; Conservative
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                                                                                                                                                                                                                                          Best Local Similarity
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Best Local Similarity
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Seq primer: T3.
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BE643702/c
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                               BH950547 884 bp DNA linear GSS 01-OCT-2002 odil31004.bl B.oleracea002 Brassica oleracea genomic, genomic survey sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /mol_type="genomic DNA"

/db xref="taxon:3712"

/clone lib="B.oleracea002"

/note="vector: poTw13; Whole genome shotgun library from flowering buds. DNA was purified from a crude nuclear prep using Brassica oleracea T0100DBH3 buds provided by Thosmas Osborn at the University of Wisconsin. Genomic DNA was provided by Pablo Rabinowicz (CSHL) and the shotgun library prepared at Washington University Genome Sequencing Center."
                                                                                                                                                                                Brassica oleracea

Brassica oleracea

Bruszyota, Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Wagnoliophyta; eudicotyledons; core eudicots;
rosids; eurosids II; Brassicales; Brassicaceae; Brassica.

I (bases I to 884)

Delehaunty, K., Fewell, G., Fulton, L., McCombie, W.R., Miner, T.,
Nash, W., Rabinowicz, P.D. and Wilson, R.K.

Unpublished (2002)

Contact: Richard K. Wilson
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Pinus taeda
Wakaryota, Viridiplantae, Streptophyta, Embryophyta, Tracheophyta,
Spermatophyta, Coniferopsida, Coniferales, Pinaceae, Pinus,
1 (bases 1 to 223)
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An EST database from drought-stressed loblolly pine (Pinus taeda)
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Gebremedhin,M., Dervinis,C., Martin,T., White,T., Davis,J. and
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Pred. No. 5.3e+02;
0; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                         Genome Sequencing Center
Washington University School of Medicine
Baall: submissions@watson.wustl.edu .
Plate: odi13 row: c column: 04
Seq primer: -21UPpOT forward
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1. .884
/organism="Brassica oleracea"
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Contact: Cordonnier-Pratt MM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                High quality sequence start: 200
High quality sequence stop: 279.
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                                                                                                                     BH950547.1 GI:23431774
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Best Local Similarity 94.7%;
Matches 18; Conservative
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                                                                                                                                                               Brassica oleracea
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RESULT 8
BH950547/c
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/organism="Pinus taeda"
/organism="Pinus taeda"
/organism="RNRA"
/br. type="mRNR"
/db_xref="taxon:3322"
/db_xref="taxon:3322"
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/clone="RRD53 21 G04 A022"
/clone="Tab host = "Drought-stressed loblolly pine roots D53"
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/note="Vector: p5.1180; Site 1: EcoRI; Site 2: KhoI; The
library was prepared from poly4+ RNA from drought-stressed
loblolly pine (Pinus taeda) roots. Water was withheld from
ramet clones until predawn needle water potential reached
-1.75 MPa. On day 7 roots were harvested for RNA
isolation. Double-stranded cDNA was cloned
unidirectionally into p511180. Inserts excised with EcoRI
(5' end) and XhoI (3' end)."
                                                                                                                                                                                     Email: mmpratt@uga.edu
RNA prepared and library constructed by W. Walter Lorenz, School of
RNA prepared and library constructed by W. Walter Lorenz, School of
Forestry, University of Georgia; plant material prepared at the
University of Florida; sequencing done in the Laboratory for
Genomics and Bioinformatics, University of Georgia. Sequence ends
have been trimmed to exclude vector and regions below Phred quality
16. Three-prime sequences are presented as their reverse complement
and have been trimmed to exclude polyA.
Seq primer: JENREV (CAGGAAACAGCTATGACC).
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Contact: Sederoff, Ron Formate Bootechnology State Worth Carolina State University 840 Main Campus Drive, Centennial Campus, Campus Box 7247, Raleigh, NC 27659, USA
Tel: 919 515 7800
Fax: 919 515 7801
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Bukaryota, Viridiplantae, Streptophyta, Embryophyta, Tracheophyta,
Spermatophyta, Coniferopsida, Coniferales, Pinaceae, Pinus,
1 (bases 1 to 243)
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NXCI 043 C06 F NXCI (N8f Xylem Compression wood Inclined) Finus taeda cDNA clone NXCI 043 C06 5' similar to Arabidopsis thaliana sequence At3g11660 unknown protein see
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please see http://web.ahc.umn.edu/blodata/nsfpine/ for further
information.
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Laboratory for Genomics and Bioinformatics
The University of Georgia, Department of Plant Biology
Plant Sciences Building, Rm. 2502, Athens, GA 30602-7271, USA
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90.0%; Pred. No. 8.7e+02;
ive 0; Mismatches 2;
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Matches 18; Conservative
                                                                                                                      Tel: 706 542 1860
Fax: 706 583 0210
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Inote="Site 1: Sal1; Site_2: BamHI; cDNA library was prepared and sequenced in Mouse Genome Encyclopedia project of Genome Exploration Research Group in Riken Genomic Sciences Center and Genome Science Laboratory in RIKEN. Division of Experimental Animal Research in Riken contributed to prepare mouse tissues. 1st strand cDNA was GAGAGAGAGCGCCAACTCGAGTTTTTTTTTTTVN 3:1, cDNA was
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Contact: Sederoff, Ron
Forest Biotechnology
North Carolina State University
Mooth Campus Drive, Centennial Campus, Campus Box 7247, Raleigh,
trehalose and its application for the synthesis of full length CDNA. Proc. Natl. Acad. Sci. U.S.A. 95 (2), 520-524 (1998)
Itoh.M., Kitsuniai, T., Akiyama, J., Shibata, K., Izawa, M., Kawai, J., Tomaru, Y., Carninci, P., Shibata, Y., Ozawa, Y., Muramatsu, M., Okazaki, Y. and Hayashizaki, Y.
Automated filtration-based high-throughput plasmid preparation system. Genome Res. 9 (5), 463-470 (1999)
Garninci, P. and Hayashizaki, Y.
High-efficiency full-length cDNA cloning. Methods Enzymol. 303, 19-44 (1999)
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                                                                                                                                                                                                                                                                                                                                Please visit our web site (http://genome.rtc.riken.go.jp) for further details.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /clone_lib="RIKEN full-length enriched, 0 day neonate
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Pred. No. 9.3e+02;
0; Mismatches 2;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /tissue_type="lung"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                            organism="Mus musculus"
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Best Local Similarity 90.0
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.

1. (bases 1 to 336)

Konno, H., Alzawa, K., Akahira, S., Akiyama, J., Arakawa, T., Hori, P., Ishikawa, T., Hara, A., Hayatsu, N.,

Riyosawa, H., Kojima, Y., Komdo, S., Fukunishi, Y., Hara, A., Hayatsu, N.,

Kiyosawa, H., Kojima, Y., Komdo, S., Koya, S., Kurihara, C.,

Kiyosawa, H., Kojima, Y., Komdo, S., Koya, S., Murihara, C.,

Kusakabe, M., Matsuyama, T., Miki, R., Mizuno, Y., Nakamura, M., Oda, H.,

Okazaki, Y., Ono, T., Owa, C., Salto, H., Satai, C., Sato, K.,

Shibata, K., Shibata, Y., Shigmoto, Y., Shinagawa, A.,

Takahashi, F., Tominaga, N., Toya, T., Tsunda, A., Watanabe, S., Yamanuka, T., Yamanaka, T., Yamanaka, T., Yamo, R., Watanabe, S., Yamanaka, T., Tananaka, T., Tananaka, T., Yamanaka, T., Yamanaka, T., Yamanaka, T., Yamanaka, T., Yamanaka, T., Yamanaka, T., Tananaka, T., Yamanaka, T., Tananaka, T., Yamanaka, T., Tananaka, T., Yamanaka, T., Yamanaka, T., Yamanaka, T., Tananaka, T., Yamanaka, T., Tananaka, T., Yamanaka, T., Yamanaka, T., Tananaka, T., Yamanaka, T., Tananaka, T., Yamanaka, T., Yamanaka, T., Yamanaka, T., Yamanaka, T., Tananaka, T., Yamanaka, T., Tananaka, T., Yamanaka, T., Tananaka, T., Yamanaka, T., Tananaka, T., Tananaka
                                                                                                                                                                                              /call type="Compression"
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/dev_gtage="Jouvenile"
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/clone_lib="NKCI (Msf Xylem Compression wood Inclined)"
/clone_lib="NKCI (Msf Xylem Compression wood taken from three six-year old trees (three different genotypes), in the juvenile phase. These trees were induced to form the juvenile phase. These trees were induced to form the juvenile phase. These trees were induced to form the bottoms of the inclined stems, and a mixture of all three genotypes was used for the library. Oligo-dr primed cDNA was directionally cloned into the ECORI-XhoI Bluescript X vector arms. NOTE: The sequences contain a 'CNNA adapter' between the ECORI site and the start of the EST. The adapter sequence is 'AATTCGGCACGAG'."
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Carninci.P., Nishiyama,Y., Westover,A., Itoh,M., Nagaoka,S.,
Sasaki,N., Okazaki,Y., Muramatsu,M. and Hayashizaki,Y.
Thermostabilization and thermoactivation of thermolabile enzymes by
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                                           "mol type="mRNA"
|strain="Coastal plain loblolly pine from North Carolina"
|db_xref="taxon:3352"
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                organism="Pinus taeda
                                                                                                                                            clone="NXCI_043_C06"
tissue_type="Xylem"
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NXSI 003 F12 F NXSI (NBE Xylem Side wood Inclined) Pinus taeda cDNA clone NXSI 003 F12 5' similar to Arabidopsis thaliana sequence At3911660 unknown protein see
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /clone lib="NXSI (Nsf Xylem Side wood Inclined)" /clone lib="NXSI (Nsf Xylem Side 1: Eco RI; Site 2: Xhoi; The library is from early (spring) wood, taken from three six-year old trees (three different genotypes), in the juvenile phase. These trees were induced to form side wood by bending to a 45 degree angle and tying them to the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sederoff, R. Molecular Basis of Wood Formation in the Pine Megagenome Molecular Basis of Wood Formation in the Pine Megagenome Wipublished (2000)
Contact: Sederoff, Ron Forest Biotechnology State University
North Carolina State University
840 Main Campus Drive, Centennial Campus, Campus Box 7247, Raleigh,
                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                /clone="NXXV 105 G03"
/clone lib="NBf Xylem Normal wood Vertical"
/note="Vector: BlueScript SK; Site 1: Eco RI; The sequences contain a 'cDNA adapter' between the EcoRI site and the start of the EST. The adapter sequence is
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/strain="Coastal plain loblolly pine from North Carolina"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NC 27695, USA
Tel: 919 515 7800
Fax: 919 515 7801
Email: ron_sederoff@ncsu.edu, jerri_johnson@ncsu.edu
Please see http://web.ahc.umn.edu/biodata/nsfpine/ for further
                 Email: ron sederoff@ncsu.edu, jerri johnson@ncsu.edu
Please see http://web.ahc.umn.edu/biodata/nsfpine/ for further
                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
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BFS16817
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                                                                                                                                                                                                                                                                                                                                                                           Length 341;
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Pred. No. 9.3e+02;
                                                                                                                                                                                                                                                                                                                                                                           84.0%; Score 16.8; Dilarity 90.0%; Pred. No. 9.3e Conservative 0; Mismatches
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/tismue_type="xylem"
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                                                                                                                                                                /mol_type="mRNA"
/db_xref="taxon:3352"
                                                                                  Seg primer: T3.
Location/Qualifiers
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Pinus taeda
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                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 GGGGTCAACGTTCAGGGGG 20
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515 7801
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Best Local Similarity
Matches 18; Conserv?
                                                                   nformation.
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ground. Differentiating xylem was harvested from the sides of the inclined stems, and a mixture of all three genotypes was used for the library. Oligo-dT primed cDNA was directionally cloned into the EcoRI-AND BlueScript SK between the EcoRI site and the start of the EST. The adapter sequence is 'AATICGGCACGAG'."
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NXSI 062 B04 F NXSI (NBf Xylem Side wood Inclined) Pinus taeda CDNA clone NXSI 062 B04 S' similar to Arabidopsis thaliana sequence At2911660 unknown protein see
http://mips.gsf.de/proj/thal/db/index.html, mRNA sequence.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    840 Main Campus Drive, Centennial Campus, Campus Box 7247, Raleigh,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota, Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Coniferopsida; Coniferales; Pinaceae; Pinus; Pinus. (bases 1 to 381)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NC 27695, USA
Tel: 919 515 7800
Fax: 919 515 7801
Email: ron_sederOff@ncsu.edu, jerri johnson@ncsu.edu
Email: ron_sederOff@ncsu.edu, jerri johnson@ncsu.edu
Please see http://web.ahc.umn.edu/blodata/nsfpine/ for further information.
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Contact: Sederoff, Ron
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                                                                                                                                                                            Length 363;
                                                                                                                                                                                                                     2; Indels
                                                                                                                                                                            11arity 90.0%; Pred. No. 9.4e+02; Conservative 0; Mismatches 2;
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North Carolina State University
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Spermatophyta; Coniferopsida; Coniferales; Pinaceae; Pinus; Pinus.
1 (bases 1 to 395)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           84.0%; Score 16.8; DB 2;
90.0%; Pred. No. 9.5e+02;
iive 0; Mismatches 2;
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1. 395
7. crganism="Pinus taeda"
/mol_type="mRNA"
/db_xref="taxon:3352"
                                                                                                                                                                                                                                                                                                        /organism="Pinus taeda"
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Contact: Sederoff, Ron
Forest Biotechnology
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CD028242/c
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/note="Vector: Uni-ZAP XR; ecotype: Landes; The library
was made from the roots of 6 weeks of seedlings grown in
hydroponic conditions. A three weeks drought stress
treatment was applied by lowering the osmotic potential of
the nutrient solution to -0.45 MPa using 170 g/l of
polyethylene glycol as an osmoticum. A mixture of
genotypes were used. Oligo-dT primed cDNA was
directionally cloned into the EcoRI-XhoI lambda-ZAP vector
arms and mass-excised to form a pBluescript phagemid"
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NXNVO04A09 5', mRNA sequence.
                                                                                                                                                                                             BX678528 RS Pinus pinaster CDNA clone RS10E12, mRNA sequence.
BX678528
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Frigerio, J. and Plomion, C.
Indentification of water-deficit responsive genes in Maritime pine (Pinus pinaster Ait.) using an EST approach
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Pinus taeda
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
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       84.0%; Score 16.8; DB 5; Length 381; 90.0%; Pred. No. 9.5e+02; ive 0; Mismatches 2; Indels 0
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                route d'Arcachon 33612 Cestas CEDEX France
Email: Frigerio@pierroton.inra.fr
Email: Frigerio@pierroton.inra.fr
Seg primer: T3.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /organism="Pinus pinaster"
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/clone="RS10E12"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Contact: Frigerio JM
Genetique et Amelioration 69
                                                                                                              261 GGGTCAACGAGCAGGGGG 242
                                                                                 1 GGGGTCAACGTTCAGGGGG 20
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         Query Match
Best Local Similarity 90.0
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Pinus pinaster
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Modecular Basis of Wood Formation in the Pine Megagenome Modecular Basis of Wood Formation in the Pine Megagenome Unpublished (2000)
Contact: Sederoff, Ron
Forest Biotechnology
North Carolina State University
North Carolina State University
North Carolina Drive, Centennial Campus, Campus Box 7247, Raleigh, NC 27695, USA
Tel: 919 515 7800
Fax: 919 515 7801
Email: ron_sederoff@ncsu.edu, jerri_johnson@ncsu.edu
Seq primer: T3.
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840 Main Campus Drive, Centennial Campus, Campus Box 7247, Raleigh,
WC 27695, USA
Tel: 919 515 7800
Fax: 919 515 7801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /clone lib="Nef Xylem Normal wood Vertical"
/note="Vector: BlueScript SK; Site_1: Eco RI; The
sequences contain a 'cDNA adapter' between the EcoRI site
and the start of the EST. The adapter sequence is
'AATTCGGCACGAG'."
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Spermatophyta, Coniferopsida, Coniferales, Pinaceae, Pinus, Pinus.

    (bases 1 to 395)

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Please see_http://web.ahc.umn.edu/biodata/nsfpine/ for further
information.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
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/clone lib="Nsf Xylem Normal wood Vertical"
/note="Vector: BlueScript SK; Site_1: Eco RI; The
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/tissue_narvusy_nuw".
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Xhoi; The library is from primary xylem scraped from the
roots of a twelve year old tree in the transitional phase
from juvenile wood to mature wood production. NOTE: The
sequences contain a 'cDNA adapter' between the EcoRI site
and the start of the EST. The adaptersequence is
'AATTCGGCACGAG'."
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NXSI 130 G03 F NXSI (NBE Xylem Side wood Inclined) Pinus taeda cDNA clone NXSI 130 G03 5' similar to Arabidopsis thaliana sequence At2911660 unknown protein see http://mips.gsf.de/proj/thal/db/index.html, mRNA sequence.
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Molecular Basis of Wood Formation in the Pine Megagenome
Unpublished (2000)
Contact: Sederoff, Ron
Forest Biotechnology
North Carolina State University
840 Main Campus Drive, Centennial Campus, Campus Box 7247, Raleigh,
NC 27695, USA
Tel: 919 515 7801
Eax: 919 515 7801
Email: ron sederoff@ncsu.edu, jerri johnson@ncsu.edu
Please see http://web.ahc.umn.edu/blodata/nsfpine/ for further
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Forest Blotechnology
North Carolina State University
840 Main Campus Drive, Centennial Campus, Campus Box 7247, Raleigh,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1. 477
/organism="Pinus taeda"
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/strain="Coastal plain loblolly pine from North Carolina"
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Spermatophyta; Coniferopsida; Coniferales; Pinaceae; Pinus; Pinus.
1 (bases 1 to 491)
                                                                       Pinus taeda
Bukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Coniferopsida; Coniferales; Pinaceae; Pinus; Pinus.
1 (bases 1 to 477)
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Molecular Basis of Wood Formation in the Pine Megagenome
Unpublished (2000)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /db_xref="taxon:3352"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Location/Qualifiers
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     GI:21788156
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Matches 18; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Seq primer: T3
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     BQ655830.1
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BQ702629/c
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AUTHORS
TITLE
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COMMENT
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TITLE
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NXNV 181 G12 F Nsf Xylem Normal wood Vertical Pinus taeda CDNA clone NXNV 181 G12 5' similar to Arabidopsis thaliana sequence At2911660 unknown protein see http://mips.gsf.de/proj/thal/db/index.html, mRNA sequence.
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NXRV099 H04 F NXRV (Nsf Xylem Root wood Vertical) Pinus taeda cDNA clone NXRV099 H04 S' similar to Arabidopsis thaliana sequence Att235970 putative harpin-induced protein see

BQ655830
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840 Main Campus Drive, Centennial Campus, Campus Box 7247, Raleigh,
102 7969; USA
Tel: 919 515 7800
Pax: 919 515 7801
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gequences contain a 'CDNA adapter' between the EcoRI site
and the start of the EST. The adapter sequence is
'AATTCGGCACGAG'."
sequences contain a 'cDNA adapter' between the EcoRI site and the start of the EST. The adapter sequence is 'AATICGGCACGAG'."
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Please see http://web.ahc.umn.edu/biodata/nsfpine/ for further
                                                                                                                                                                             Gaps
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Contact: Sederoff, Ron
Forest Biotechnology
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                                                                                                                             Length 395;
                                                                                                                                                                             Indels
                                                                                                                             Query Match

84.0%; Score 16.8; DB 6;
Best Local Similarity 90.0%; Pred. No. 9.5e+02;
Matches 18; Conservative 0; Mismatches 2;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Seq primer: T3.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Pinus taeda (loblolly pine)
                                                                                                                                                                                                                                                                              242 GGGGTCAACGAGCAGGGGG 223
                                                                                                                                                                                                                              1 GGGTCAACGTTCAGGGGGG 20
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sederoff, R.
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SOURCE
ORGANISM
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BQ655830/c
LOCUS
DEFINITION
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BE431401/c
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AUTHORS
TITLE
JOURNAL
COMMENT
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VERSION
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8

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Gaps

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/dev stage="Transitional"
/lab_nost="XL1-Blue"
/lab_nost="XL1-Blue"
/clone lib="NXRV (Nsf Xylem Root wood Vertical)"
/note="Vector: pBlueScript SK-; Site_1: Eco RI; Site_2:
/notes of a twelve year old tree in the transitional phase from juvenile wood to mature wood production. NOTE: The and the start of the EST. The adaptersequence is
/AATTCGGCACGAG.
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RNA prepared and library constructed by W. Walter Lorenz, School of
Forestry, University of Georgia; plant material prepared at the
University of Florida; sequencing done in the Laboratory for
Genomics and Bioinformatics, University of Georgia. Sequence ends
have been trimmed to exclude vector and regions below Phred quality
16. Three-prime sequences are presented as their reverse complement
and have been trimmed to exclude polyA.
Seq primer: M13-21 (TGTAAAAGGACGGCCAGT)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        VEJYALDY 495 bp mRNA linear EST 29-AUG-2003 RIDR3 8 B06.bl A022 Loblolly pine roots recovering from drought DR3 Pinus taeda CDNA clone RTDR3 8 B06_A022 3', mRNA sequence. CP392169
                                            /strain="Coastal plain loblolly pine from North Carolina"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Coniferopeida; Coniferales; Pinaceae; Pinus; Pinus. I thases 1 to 495.
Pratt, L., Cordonnier-Pratt, M.-M., Lorenz, W.W., Dean, J., Gebremedhin, M., Dervinis, C., Martin, T., White, T., Davis, J. and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                An EST database from loblolly pine (Pinus taeda) roots recovering
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The University of Georgia, Department of Plant Biology
Plant Sciences Building, Rm. 2502, Athens, GA 30602-7271, USA
TT: 706 542 1860
Fax: 706 583 0210
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0
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Pred. No. 9.8e+02;
0; Mismatches 2;
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   organism="Pinus taeda"
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Unpublished (2003)
Other ESTS: RTDR3 8 B06.91 A022
Contact: Cordonnier-Fratt WM
                                                                                                                                                                /tissue_type="Xylem"
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Pinus taeda
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Best Local Similarity 90.0
Matches 18; Conservative
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CF392169
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Contact: Sederoff, Ron
Forest Biorechnology
North Carolina State University
840 Main Campus Drive, Centennial Campus, Campus Box 7247, Raleigh, NC 27695, USB 7800
Fat: 919 515 7800
Fax: 919 515 7801
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'strain="Coastal plain loblolly pine from North Carolina"
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Pinus; Pinus.
                                                                                            Email: ron_gederoff@ncgu.edu, jerri_johnson@ncsu.edu
Please see http://web.ahc.umn.edu/biodata/nsfpine/ for further
information.
Seq primer: T3.
Location/Qualifiers
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Please see http://web.ahc.umn.edu/biodata/nsfpine/ for further
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Pred. No. 9.8e+02;
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                                                                                                                                                                                                                                                                                                  'organism="Pinus taeda"
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Best Local Similarity 90.0
Matches 18; Conservative
NC 27695, USA
Tel: 919 515 7800
Fax: 919 515 7801
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Seq primer: T3
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NXNV_130_G08_F Nsf Xylem Normal wood Vertical Pinus taeda cDNA
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/mol type="mind" cacae.
/db xref="taxon:3352"
/db xref="taxon:3352"
/db xref="taxon:3352"
/clone lib="pine lambda zap Xylem library"
/clone lib="Pine lambda zap; Site_1: EcoRI; Site_2: XhoI;
/note="Vector: Lambda zap; Site_1: Anote;
/note="Vector: Lambda zap; Site_1: XhoI;
/note="Vector: Lambda zap; Site_1: ZhoI;
/note="Vector: Lambda zap; Site_1
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23H4 Pine Lambda Zap Xylem library Pinus taeda cDNA, mRNA sequence.
AI813183
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ince="Vector: pSL1180; Site 1: EcoRI; Site 2: XhoI; The library was prepared from poIyA+ RNA from loblolly pine library was prepared from poIyA+ RNA from drought. Water was withheld from tramet clones until predawn needle water potential reached -1.75 MPa. Plants were well watered on day 7 and allowed to recover for 2 days, at which time roots were harvested for RNA isolation. Double-stranded cDNA was cloned unidirectionally into pSL1180. Inserts excised with EcoRI (5' end) and XhoI (3' end)."
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The Pine Gene Discovery Project
Unpublished (1999)
Contact: Noss Whetten
Forest Biotechnology Group
North Carolina State University
Dept. of Forestry, NC State University, 6113 Jordan Hall,
Raleigh, NC, 27695-8008
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Pred. No. 9.8e+02;
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Best Local Similarity 90.0%;
Matches 18; Conservative
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BFS17774 S12 bp mRNA linear EST 07-MAY-2003 NXSI 031 A10 F NXSI (Naf Xylem Side wood Inclined) Pinus taeda cDNA clone NXSI 031-A10 5' similar to Arabidopsis thaliana sequence At3911660 unknown protein see http://mips.gsf.de/proj/thal/db/index.html, mRNA sequence. BFS17774
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Molecular Basis of Wood Formation in the Pine Megagenome
Unpublished (2000)
Contact: Sederoff. Ron
Forest Biotechnology
North Carolina State University
840 Main Campus Drive, Centennial Campus, Campus Box 7247, Raleigh,
                                                                                                                                                                                                                                                                                                          Molecular Basis of Wood Formation in the Pine Megagenome Molecular Basis of Wood Formation in the Pine Megagenome Unpublished (2000)
Contact: Sederoff, Ron Forest Biotechnology State Oniversity 840 Main Campus Drive, Centennial Campus, Campus Box 7247, Raleigh, NC 27699, USA 7869 Fax: 919 515 7800
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"Organism="Pinus taeda"

/mol type="mkNA"

/db_xref="taxon:3352"

/clone="NXNV 130 GGN Normal wood Vertical"

/clone lib="Nef Kylem Normal wood Vertical"

/note="Vector: BlueScript SK; Site 1: Eco RI; The

and the start of the EST. The adapter sequence is

'AATTCGGCACGAG'."
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Spermatophyta; Coniferopsida; Coniferales; Pinaceae; Pinus; Pinus.
1 (bases 1 to 512)
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Spermatophyta; Coniferopsida; Coniferales; Pinaceae; Pinus; Pinus.
. (bases 1 to 505)
clone NXNV_130_G08 5' similar to Arabidopsis thaliana sequence At3g11660 unknown protein see http://mlps.gsf.de/proj/thal/db/index.html, mRNA sequence.
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Please see http://web.ahc.umn.edu/biodata/nsfpine/ for further
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Tel: 919 515 7800
Fax: 919 515 7801
Email: ron_sederoff@ncsu.edu, jerri_johnson@ncsu.edu
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Pred. No. 9.9e+02;
0; Mismatches 2;
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Best Local Similarity 90.0°
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Gaps

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/u. 327
/ proganism="Pinus taeda"
/ mol type="mRNA"
/ strain="Coastal plain loblolly pine from North Carolina"
/ db xref="taxon:3352"
/ clone="NXSI_139_F12"
/ tissue type="Xylem"
/ cell type="Xylem"
/ cell type="Xylem"
/ cell type="Side"
/ dev_ stage="Juvenile"
/ lab host="X.1.-Blue"
/ clone lib="NXSI (Nef xylem Side wood Inclined)"
/ lab host="X.1.-Blue"
/ clone lib="NXSI (Nef xylem Side wood inclined)"
/ note="Vector: BlueScript SK; Site 1: Eco RI; Site 2:
XhoI; The library is from early (spring) wood, taken from
three six-year old trees (three different genotypes), in
the juvenile phase. These trees were induced to form side
wood by bending to a 45 degree angle and tying them to the
ground. Differentiating xylem was harvested from the sides
of the inclined stems, and a mixture of all three
genotypes was used for the library. oligo-dT primed cDNA
was directionally cloned into the EcoRI-XhoI BlueScript SK
vector arms. NOTE: The sequences contain a 'cDNA adapter'
between the EcoRI site and the start of the EST. The
adapter sequence is 'AATTCGGCACGAG'."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BG275515
NXSI 139 F12 F NXSI (N8f Xylem Side wood Inclined) Pinus taeda cDNA clone NXSI 139 F12 5' similar to Arabidopsis thallana sequence At3g11660 unknown protein see
http://mips.gsf.de/proj/thal/db/index.html, mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Molecular Basis of Wood Formation in the Pine Megagenome Unpublished (2000)
Contact: Sederoff, Ron
Forest Cardina State University
840 Main Campus Drive, Centennial Campus, Campus Box 7247, Raleigh, NC 27655, USA
Tel: 919 515 7800
Fax: 919 515 7801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Coniferopsida; Coniferales; Pinaceae; Pinus; Pinus.
                                                  /clone_lib="NCCCWA 1RT"
/note="Vector: pCMV SPORT6; Site_1: Not1; Site_2: Sal1;
Library made from pooled tissue from brain, gill, liver,
spleen, muscle, and kidney."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Email: ron_sederoff@ncsu.edu, jerri_johnson@ncsu.edu
Please see http://web.ahc.umn.edu/biodata/nsfpine/ for further
information.
Seq primer: T3.
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                                                                                                                                                                                                                                                                                 2; Indels
                                                                                                                                                                                                                      Score 16.8; DB 6;
Pred. No. 9.9e+02;
0; Mismatches 2;
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                                                                                                                                                                                                                            84.0%;
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Best Local Similarity 90.0°
Matches 18; Conservative
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                                                                                                                                                                                     / mon_type="mkNA"
/ word type="mkNA"
/ db_xref="taxon:3352"
/ clone="MXSI 031 A10"
/ tissue_type="Xy]em"
/ clone="Xy]em"
/ clone="Xy]em"
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/ cell_type="Xy]em"
/ cell_type="Xy]em"
/ cell_type="Xy]em"
/ cell_type="Xy]em"
/ cell_type="Xy]em"
/ cell_type="Sylem"
/ clone lib="MXSI (ME Xy]em Side wood Inclined)"
/ clone lib="MXSI (ME Xy]em early (spring) wood, taken from three six-year old trees (three different genotypes), in three six-year old trees (three different genotypes), in the juvenile phase. These trees were induced to form side wood by bending to a 45 degree angle and tying them to the ground Differentiating xylem was harvested from the sides of the inclined stemm, and a mixture of all three genotypes was used for the library. Oligo-dT primed cDNA was directionally cloned into the EcoRI-XXDI BlueScript SK vector arms. NOTE: The sequences contain a 'cDNA dapter' between the EcoRI site and the start of the EST. The adapter sequence is 'AATTCGGCACGAG'."
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Oncorhynchus mykiss
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Actinopterygii; Neopterygii; Teleostei; Euteleostei;
Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
I (bases 1 to 530)
Rexroad, C.E. 34d, Lee, Y., Keele, J.W., Karamycheva, S., Brown, G., Koop, B., Gahr, S.A., Palti, Y. and Quackenbush, J.
Sequence analysis of a rainbow trout cDNA library and creation of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Contact: Rexroad CE
USDA, ARS, National Center for Cool and Cold Water Aquaculture
11876 Leetown Road, Kearneysville, WV 25430, USA
Tel: 304 724 8340 x2129
Fax: 304 725 0351
Email: crexroadenccwa. ars.usda.gov
Single pass sequencing. Bases called with phred v0.020425.c and
trimmed with the aid of the trim_alt option. Vector identified by
cross_match v0.990329.
Seq primer: AGCGGAPATATCACACAGGA.
Please see http://web.ahc.umn.edu/biodata/nsfpine/ for further
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Cytogenet. Genome Res. 102 (1-4), 347-354 (2003)
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/db_xref="taxon:8022"
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                                                                                                                                     /organism="Pinus taeda"
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                                                                                      Location/Qualifiers
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CA354197.1 GI:24599384
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Seg primer: T3
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CA354197/c
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Pinus taeda (loblolly pine)
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Best Local Similarity 90.09
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RTCNT1_76_D05.bl_A029 Root control Pinus taeda cDNA clone
RTCNT1_76_D05_A029 3', mRNA sequence.
CF673102.1 GI:37570495
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /db xref="taxon:3352"
/clone="5NBE"
/tissue_type="Xylem"
/lab host="5NBE"
/clone lib="Loblolly pine N"
/clone lib="Loblolly pine N"
/note="Yector: lambda-ZAP; Site_1: EcoRI; Site_2: XhoI;
The library was made from immature xylem from the side of inclined stems of differentiating wood. A mixture of four genotypes were used. Oligo-dr primed cDNA was directionally cloned into the EcoRI-XhoI lambda-ZAP vector arms.
                                                                                                                                                                            AA556997 546 bp mRNA linear EST 28-AUG-1998 839 Loblolly pine N Pinus taeda cDNA clone 5N3E, mRNA sequence. AA556997
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Eukaryota, Viridiplantae, Streptophyta, Embryophyta, Tracheophyta,
                                                                                                                                                                                                                                                                                              Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Conferopsida; Coniferales; Pinaceae; Pinus; Pinus.
1 (bases 1 to 546)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            plain loblolly pine from North Carolina"
                                                                                                                                                                                                                                                                                                                                                             Alloma, I., Quinn, M., Shoop, E., Swope, K., St.Cyr, S., Carlis, J., Riedl, J., Retzel, E. Campbell, M.M., Sederoff, R. and Whetten, R.W. Analysis of xylem formation in pine by cDNA sequencing Proc. Natl. Acad. Sci. U.S.A. 95 (16), 9693-9698 (1998) 98356220
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North Carolina State University
Dept. of Forestry, NC State University, 6113 Jordan Hall,
Raleigh,NC, 27695-8008
Tel: 919-515-7800
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                    IndelB
Pred. No. 9.9e+02;
0; Mismatches 2;
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/mol_type="mRNA"
/strain="Coastal plain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Fax: 919-515-7801
Email: rosswhet@unity.ncsu.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        location/Qualifiers
 90.0%; Pred.
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Pinus taeda
                                                                                         275 GGGGTCAACGAGCAGGGGGG 256
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                                                        1 GGGGTCAACGTTCAGGGGG 20.
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   Similarity 90.0% 18; Conservative
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CF673102/c
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AA556997/c
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Spermatophytes; Conferended; Conferendes; Pinacese; Pinus; Pinus.

M. WITHOUS Perti.L., Cordomist-Perti.M.-W., Lorent, M.W., Zimmermann, C. and Dest.L., Cordomist-Perti.M.-W., Lorent, M.W., Zimmermann, C. and Dest.L., Cordomist-Perti.M.-W., Lorent, M.W., Zimmermann, C. and Libberatory for Genomics and Bioinformatics

The University of Cororgia, Department of Pain Biology
Plant Sciences Building, Rm. 2502, Athens. GA 30602-7211, USA
Tal: 706 533 0210

Email: mapartment and Bioinformatics
The University of Cororgia, Department of Pain Biology
Plant Sciences Building, Rm. 2502, Athens. GA 30602-7211, USA
Tal: 706 533 0210

Email: mapartment and Bioinformatics
The University of Cororgia, Department of Pain Biology
Research Corpositive Georgia; Disparate and Bioinformatics
The University of Cororgia University of Georgia; Disparatment of Divideo Georgia Disparatment of D
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JOURNAL Unpublished (2003)

COMMENT

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Laboracory for Georgia, Department of Plant Biology

The University of Georgia, Department of Plant Biology

Plant Sciences Building, Rm. 2502, Athens, GA 30602-7271, USA

The University of Georgia, Department of Plant Biology

Plant Sciences Building, Rm. 2502, Athens, GA 30602-7271, USA

Tel: 706 583 2018

Fax: 706 583 2018

Fax: 706 583 2018

Fax: 706 583 2018

Fax: 706 Fariaty constructed by W. Walter Lorenz, School of

Fax: 706 Fariaty of Georgia, Plant material prepared at the

University, University of Georgia, Plant material at the

University, University of Georgia, Diant material at the

University, University of Georgia, Diant material at the

University, University of Georgia, Diant material at the

University, University of Georgia, Sequence ends

have been trimmed to exclude vector and regions below Fired quality

16. Three-prime sequences are presented as their reverse complement

and have been trimmed to exclude polyA.

Seq prime: JENNEY (CAGANAACACTANGACC).

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Application of Sequence and Sequence and Sequence and Sequence

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Application of Sequence and Sequence

Bost Local Similarity 90.04; Score 16.8; DB 7; Length 566;

Bost Local Similarity 90.04; Score 16.8; DB 7; Length 566;

Bost Local Similarity 90.04; Score 16.8; DB 7; Length 566;

Bost Local Similarity 90.04; Score 16.8; DB 7; Length 560; Day Scor
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Search completed: September 3, 2005, 09:48:26 Job time : 2982.57 secs

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AV996231 BW259622 AV672198 BW244852 AV672377 BW254503 111211711 BW433399 AV990599 621736 NC

BW113437 BW230554 AV974313 BW243655 BW268555

BW124438 BW441015 BW429893 BW430120 BW435693 BW116702 BW429261

BW434148 BW7988282 BW7988282 BW798282 BW7672832 BW7672373 BW2672373 BW264283 BW7672373 BW264339 BW433399 BW433399 BW433183 BW42963 BW431183 BW429431 BW729400 CR6704002 CR6718669 CR690374 CR690374

5.1.6 c 25 15 100.0 Compugen Ltd. c 28 15 100.0 c 27 15 100.0 c 27 15 100.0	c 29 15 100. c 30 15 100. time 2229.43 Seconds c 32 15 100.	33 15 100. 34 15 100. 35 15 100.	36 15 100. 37 15 100. 38 15 100.	15 100.	43 15 100. 44 15 100.	: 68479088 45 15 100.	15 100.	50 15 100. 51 15 100. 52 15 100.	15 100. 15 100. 15 100.	56 15 100. 57 15 100.	15 100.	15 100.	15 100.	ted by chance to have a 65 15 100. of the result being printed, 66 15 100.	core distribution. 67 15 100:	15 100.	. 15 100. 15 100.	BW247469 74 15 100.	V632912.r AJ494292 76 15 100.	AJ494293 77 15 100. AJ494285 78 15 100.	ga25h12.y 79 15 100.	BW242018 13 100. BP094747 15 100.	AJ495145 82 15 100. AV988927 15 100.	AV948910 84 15 100.	AV996055 L5 100.	AV964482 88 15 100.	BW345567 89 15 100.	BW247380	BW24950 BW24959 BW244304 BW244304	AV985099	BW34083
GenCore version 5 Copyright (c) 1993 - 2005 C	OM nucleic - nucleic search, using sw model Run on: September 3, 2005, 07:03:09;	(w. 254	Title: Perfect score: 15 aguence: 1 gcatgacgttgagct 15	table: ID Ga	Searched: 34239544 segs, 19032134700 res	Total number of hits satisfying chosen parameters	Minimum DB seq length: 0 Maximum DB seq length: 200000000	Post-processing: Minimum Match 0% Maximum Match 100% Listing first 90 summaries	EST:*		4: 9b_est3:* 5: 9b_est4:*	gb_est5	: gb_gss1 : gb_gss2	. No. is the number of results predi e greater than or equal to the score	by analysis of the total	SUMMARIES	Result Query No. Score Match Length DB ID	15 100.0 153 5	15 100.0 355 1 15 100.0 368 1	4 15 100.0 368 1	6 15 100.0 424 2	15 100.0 428 5	9 15 100.0 491 1	11 15 100.0 534 1	12 15 100.0 566 2	14 15 100.0 594 5	16 15 100.0 602 5	18 15 100.0 609 5	C 19 15 100.0 621 5 BW24949 C 20 15 100.0 625 5 BW24959	22 15 100.0 636 2	3 15 100.0 637 5 4 15 100.0 640 5

Mus muscu EST66226 AL667587 SCYPLEZCO AL667587 TELTROODON TELTROON

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1. .368 | ciona intestinalis" | organism="Ciona intestinalis" | molt-type="mRNA" | db xref="taxon:719" | clone="CION00821"
  Trace considered overall poor quality
High quality sequence stop: 1.
Location/Qualifiers
                                                                              organism="Mus musculus"
                                                                                                                                       'db xref="taxon:10090"
                                                                                                                                                         /clone="IMAGE:819910"
                                                                                                                                                                                               'tissue_type="embryo"
                                                                                                                                                                                                                /dev_stage="11.5dpc"
/lab_host="DH10B"
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Universita' di Padova
via G.Colombo, 35121, Italy,
Location/Qualifiers
                                                                                                /mol_type="mRNA"
/strain="C57BL/6J"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AJ494292.1 GI:21897702
                                                                                                                                                                             /sex="pooled"
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Unpublished (2000)
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Matches 15; Conserv
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AJ494292/c
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Marra,M., Hillier,L., Allen,M., Bowles,M., Dietrich,N., Dubuque,T., Geisel,S., Kucaba,T., Lacy,M., Le,M., Martin,J., Morris,M., Schellenberg,K., Steptoe,M., Tan,F., Underwood,K., Moore,B., Theising,B., Wylie,T., Lennon,G., Soares,B., Wilson,R. and
BW247469 Nori Satoh unpublished cDNA library, tailbud embryo Ciona intestinalis cDNA clone citb074008 5', mRNA sequence.
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                                                                                                                                   Ciona intestinalis
Bukaryota, Metazoa, Chordata, Urochordata; Ascidiacea, Enterogona,
Phlebobranchia, Cionidae, Ciona.
1 (basea 1 to 153)
Satou, Y., Shin-i, T., Kohara, Y. and Satoh, N.
Expressed genes in Ciona intestinalis (2002c)
Unpublished (2002)
                                                                                                                                                                                                                                                                                                                                                                                                                                                      /mol_crye="mRNA"
/db xref="arxon:7719"
/clone="citb074008"
/tissue type="whole animal"
/dev stage="tailbud embryo"
/clone lib="Nori Satch unpublished cDNA library, tailbud embryo"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Email: mouseeer@watson.wustl.edu
This clone is available royalty-free through LLNL ; contact the
IMAGE Consortium (info@image.llnl.gov) for further information.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         355 bp mRNA linear EST 30-MAY-ve32g12.rl Ko mouse embryo 11 5dpc Mus musculus cDNA clone IMAGE:819910 5' similar to gb:M64641 Mouse Mov-34 protein mRNA, complete cds (MOUSE);, mRNA sequence.
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The WashU-HHMI Mouse EST Project
Unpublished (1996)
Contact: Marra M/Mouse EST Project
WashU-HHMI Mouse EST Project
WashIngton University School of MedicineP
444 Forest Parkway, Box 8501, St. Louis, MO 63108
Tel: 314 286 1810
Fax: 314 286 1810
Email: mouseest@watson.wustl.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 153;
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Pred. No. 9.4e+02;
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Sakyo-ku, Kyoto, Kyoto 606-8502, Japan
Sakyo-ku, Kyoto, Kyoto 616-8502, Japan
Fel. 81-75-753-4081
Fax: 81-75-705-1113
Email: satoh@ascidian.zool.kyoto-u.ac.jp.
                                                                                                                                                                                                                                                                                                                                                                                                                                                    organism="Ciona intestinalis"
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Department of Zoology
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Best Local Similarity 100.
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/note="Organ smbroot of the property of the plants of the 
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Phlebobranchia; Cionidae; Ciona.
1 (bases 1 to 368)
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/clone_lib="Stratagene UniZAP whole-larva library"
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/clone_lib="Ko mouse embryo 11 5dpc"
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AJ494293.1 GI:21897703
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AJ494285 Stratagene UniZAP whole-larva library Ciona intestinalis cDNA clone CION00814, mRNA sequence.
AJ494285
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Ciona intestinalis
Eukaryota; Metazoa; Chordata; Urochordata; Ascidiacea; Enterogona;
Phlebobranchia; Cionidae; Ciona.
1 (bases 1 to 376)
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Identificazione e descrizione preliminare di nuovi geni e proteine
Identificazione e descrizione preliminare di nuovi geni e proteine
d'interesse filogenetico, nel tunicato Ciona intestinalis Thesis
(2000) Department of Biological Sciences, Universita di Padova,
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                                                                                                                                                                                                                                                                                                                    Eukaryota, Metazoa, Chordata, Urochordata, Ascidiacea, Enterogona,
Phlebobranchia, Cionidae, Ciona.
1 (bases 1 to 368)
Ievolella,C.
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/dev_stage="larval"
/clone_lib="Stratagene UniZAP whole-larva library"
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Score 15; DB 1; Length 368; Pred. No. 1e+03; 0; Mismatches 0; Indels
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/db_xref="taxon:7719"
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CRIBI Biotechnology Centre
Universita' di Padova
via G.Colombo, 35121, Italy.
Location/Qualifiers
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CRIBI Biotechnology Centre
Universita' di Padova
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Unpublished (2000)
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Unpublished (2000)
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Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Bryophyta; Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Bryophyta; Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Bryophyta; Eukaryota; Viridiplantae; Straile; Funariaceae; Physcomitrella.

Eryopada; Funariade; Funarialee; Funariaceae; Physcomitrella.

I (bases 1 to 424)

S Quatrano,R., Marra,M., Hillar,L., Pape,D., Martin,J., Wylie,T., Underwood,K., Theising,B., Allan,M., Bowers,Y., Person,B., Swaller,T., Steptoe,M., Gibbons,M., Harvey,N., Ritter,E., Jackson,Y., McCann,R., Waterston,R. and Wilson,R. iceds/Wash U Moss EST Project

Unpublished (1999)

AL Contact: Ralph Quatrano
Leeds/Wash U Moss EST Project
Washington University School of Medicine
Washington University School of Medicine
Fax: 314 286 1810

Email: est@watson.wustl.edu
Libraries were constructed by Dr. Stavros Bashiardes as part of the Physcomitrella EST program (PEP) at the Univ. of Leeds (UK) and Washington Univ. in St. Louis (USA) DNA sequencing by: Washington Univ. in St. Louis (USA) DNA sequencing by: Washington Univ. in St. Louis (USA) DNA sequencing by: Washington Univ. in St. Louis (USA) DNA sequencing by: Washington Univ. in St. Louis (USA) DNA sequencing by: Washington University Genome Sequencing Remail Expression Seq primer: -40RP from Gibco
Seq primer: -40RP from Gibco
High quality sequence stop: 423.
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| organism="Physocomitrella patens" |
| forganism="Physocomitrella patens" |
| /mol_type="mRNA" |
| /db xref="texon:3218" |
| /clone="PEP_SOURCE_ID:PPN010424" |
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| /tisme="PEP_SOURCE_ID:PPN010424" |
| /tisme="PEP_SOURCE_ID:PPN010424" |
| /lone="Peter-"DH10B" |
| /clone="DH2" |
| /clone="DH2" |
| /clone="DH2" |
| /clone="Peter-"DH10B" |
| /clone="Texor: PBN" |
| /clone="Texor: PBN" |
| /clone="Peter-"DH2" |
| /clone="DH2" |
| /clone="D
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ga25h12.yl Moss EST library PPN Physcomitrella patens cDNA clone
PPE_SOURCE_ID:PPN010424 5', mRNA sequence.
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Best Local Similarity 100.0
Matches 15, Conservative
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/organism="Ciona intestinalis"
/mol_type="mRNA"
/db_xref="taxon:7719"
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Location/Qualifiers
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CRIBI Biotechnology Centre
Universita' di Padova
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/strain="C9"
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                                                     BP094747.1 GI:49466834
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Ciona intestinalis
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Best Local Similarity
Matches 15; Conserv
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AJ495145/c
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TITLE
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           pallescript sequence. The vector was then packaged using pallescript sequence. The vector was then packaged using Gold gigapackaging extracts. Library was grown in XLIBlue MRF' cells and amplified. The library was grown in XLIBlue MRF' cells and splitting. The library was grown in XLIBlue exassist as a helper phage that releases the pBluescript sequence and circularises it as single stranded plasmids that are then packaged (by helper phage) and secreted out of the host cell as phagemids. SoLR cells were transformed with phagemids and the library was plated out on LB-amp plates to select for transformants. Approximately 1,000,000 colonies were grown and recovered. The double stranded plasmid library was recovered by using Quiagen Midi prep kit. 2 micro grams of each library were used to transform DH10B cells by electroporation."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BW242018 AMPA Linear EST 09-NOV-2002 BW242018 Nori Satch unpublished CDNA library, tailbud embryo Ciona intestinalis cDNA clone citb101a21 5', mRNA sequence.
BW242018
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Phlebobranchia, Cionidae, Ciona.

I (Dasea I to 428)
Satou, Y., Shin-i, T., Kohara, Y. and Satoh, N.
Expressed genes in Ciona intestinalis (2002c)
Unpublished (2002)
Contact: Nori Satoh
Department of Zoology
Kyoto University
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /tissue_type="whole animal"
/dev_stage="tailbud embryo"
/clone_lib="Nori Satoh unpublished cDNA library, tailbud
embryo"
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well as lambda DNA and cDNA is cloned within this
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 15; DB 5;
Pred. No. 1e+03;
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Tel: 81-75-753-4081
Fax: 81-75-705-1113
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/clone="citb101a21"
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Ciona intestinalis
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Best Local Similarity 100.
Matches 15; Conservative
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Gene Function Analysis
Phycologia (2004) In press
Contact: Erika Assmizu
The First Laboratory for Plant Gene Research
Kazusa DNA Research Institute
Yana 1532-3, Kisarazu, Chiba 292-0812, Japan
Email: assmizu@kazusa.or.jp, URL:http://www.kazusa.or.jp/en/plant/.
Location/Qualifiers
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AJ495145 Ciona intestinalis larva Ciona intestinalis cDNA clone CIONO1803, mRNA sequence.
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                                                                                                                                                                                                                                                                                                                  1 (bases 1 to 486)
Asamizu,E., Nakamura,Y., Miura,K., Fukuzawa,H., Fujiwara,S.,
Hirono,M., Iwamoto,K., Matsuda,Y., Minagawa,J., Shimogawara,K.,
Takahashi,Y. and Tabiaca,S.
Establishment of Fublicly Available cDNA Material and Information
Resource of Chlamydomonas reinhardtii (Chlorophyta), to Facilitate
BP094747 Chlamydomonas reinhardtii C9 various conditions
Chlamydomonas reinhardtii cDNA clone MXL028f09_r 5', mRNA sequence
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Phlebobranchia; Cionidae; Ciona.
1 (bases 1 to 491)
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                                                                                                                                                                         Chlamydomonas reinhardtii
Chlamydomonas reinhardtii
Eukaryota, Viridiplantea; Chlorophyta; Chlorophyceae; Volvocales;
Chlamydomonadaceae; Chlamydomonas.
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XhoI; The cDNA library was made from a mixture of cells
grown under various conditions"
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/clone="MXL028f09_r"
/clone= lib="Chlamydomonas reinhardtii C9 various
conditions"
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Pred. No. 1e+03;
Mismatches 0; Indels
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/organism="Chlamydomonas reinhardtii"
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1 GCATGACGTTGAGCT 15
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AV984785/c
LOCUS
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KEYWORDS
SOURCE
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AV948910 GI:19426669
EST.
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Ciona intestinalis
Ciona intestinalis
Bukaryotas, Metazoa; Chordata; Urochordata; Ascidiacea; Enterogona;
Phlebobranchia; Cionidae; Ciona.
1 (bases 1 to 502)
Satoh, N., Satou, Y., Kohara, Y. and Shin-i, T.
Expressed genes in Ciona intestinalis
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Ciona intestinalis
Bukaryota, Metazoa, Chordata, Urochordata, Ascidiacea, Enterogona,
Phleboranchia, Cionidae, Ciona.
1 (Dases 1 to 534)
Satoh,N., Satou,Y., Kohara,Y. and Shin-i,T.
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                                                                                Score 15; DB 1; Length 491;
Pred. No. 1e+03;
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100.0%; Pred. No. 1e+03;
ive 0; Mismatches 0; Indels
                                                                                                             0; Indels
                /dev stage="larva"
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/note="country=Italy"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Email: satch@ascidian.zool.kyoto-u.ac.jp.
Location/Qualifiers
1. .502
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /organism="Ciona intestinalis"
                                                                                                                                                                                                                                                                                                                                                                                                                                         Contact: Nori Satch
Department of Zoology
Kyoto University
Sakyo-ku, Kyoto, Kyoto 606-8502, Japan
Tel: 81-75-753-4081
Fax: 81-75-753-4081
                                                                                                               0; Mismatches
  /clone="CION01803"
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AV988927.1 GI:19477698
                                                                                    100.0%;
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                                                                                    Query Match
Best Local Similarity 100.0
Matches 15; Conservative
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Best Local Similarity 100.
Matches 15; Conservative
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AV948910/c
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AV988927/c
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AV984785 Sori Satch unpublished cDNA library, larva Clona intestinalis cDNA clone cilv38j22 5', mRNA sequence.
AV984785 GI:19473653
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1 (bases 1 to 566)
Satoh, N., Satou, Y., Kohara, Y. and Shin-i, T.
Expressed genes in Ciona intestinalis
Unpublished (2000)
Contact: Nori Satoh
Department of Zoology
                                                                                                                                                                                                                                                                                                             /clone="cilv01f01"
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/dev stage="larva"
/clone_lib="Nori Satoh unpublished cDNA library, larva"
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Best Local Similarity 100.0%; Pred. No. 1.1e+03;
Matches 15; Conservative 0; Mismatches 0; Indels
Expressed genes in Ciona intestinalis
Unpublished (2000)
Contact: Nori Satoh
Department of Zoology
Kyoto University
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Tel: 81-75-753-4081
Fax: 81-75-705-1113
Email: satoh@assidian.zool.kyoto-u.ac.jp.
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Sakyo-ku, Kyoto, Kyoto 606-8502, Japan
Tel: 81-75-753-4081
Fax: 81-75-705-1113
Email: satch@ascidian.zool.kyoto-u.ac.jp.
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/mol_type="mmxna"
/mol_type="mmxna"
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bW345567 thraka Satou unpublished cDNA library, embryo whole animal Ciona intestinalis cDNA clone ciem830p09 5', mRNA sequence.
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Ciona intestinalis
Ciona intestinalis
Bukaryota, Metazoa; Chordata; Urochordata; Ascidiacea; Enterogona;
Phlebobranchia; Cionidae; Ciona.
1 (bases 1 to 602)
Satou, Y., Shin-i, T., Kohara, Y. and Satoh, N.
Expressed genes in Ciona intestinalis (2004)
/dev_stage="embryo"
/clone_lib="Yutaka Satou unpublished cDNA library, embryo
whole_animal"
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1 (bases 1 to 601)
Satoh,N., Satou,Y., Kohara,Y. and Shin-i,T.
Expressed genes in Ciona intestinalis
Unpublished (2000)
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/tissue type="whole anima1"
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/clone llb="Nori Satoh unpublished cDNA library, larva"
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AV964482 Nori Satoh unpublished cDNA library, larva Ciona intestinalis cDNA clone cilv13g11 5', mRNA sequence.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Contact: Nori Satch
Department of Zoology
Kyoto University
Sakyo-ku, Kyoto, Kyoto 606-8502, Japan
Tel: 81-75-753-4081
Fax: 81-75-705-1113
Fmail: satch@ascidian.zool.kyoto-u.ac.jp.
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/organism="Ciona intestinalis"
/mol_type="mRNA"
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Matches 15; Conservative
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                   AV996055 AV91 Satch unpublished cDNA library, tailbud embryo Ciona intestinalis cDNA clone citb43d07 5', mRNA sequence.
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1 (bases 1 to 594)
Satou, Y., Shin-1,T., Kohara,Y. and Satoh,N.
Expressed genes in Ciona intestinalis (2004)
Unpublished (2004)
Contact: Yutaka Satou
                                                                                                                                                    Ciona intestinalis

Eukaryota; Metazoa; Chordata; Urochordata; Ascidiacea; Enterogona;

Bukaryota; Metazoa; Chordata; Urochordata; Ascidiacea; Enterogona;

Chases I to 572)

Satoh,N., Satou,Y., Kohara,Y. and Shin-i,T.

Expressed genes in Ciona intestinalis

Contact: Nori Satoh

Department of Zoology
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /clone="citb43407"
/tissue_type="whole animal"
/dev_stage="tailbud embryo"
/clone_lib="Nori Satoh unpublished cDNA library, tailbud
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Tel: 81-75-753-4095
Fax: 81-75-705-1113
Email: yutaka@ascidian.zool.kyoto-u.ac.jp.
                                                                                                                                                                                                                                                                                                                      Kyoto University
Sakyo-ku, Kyoto, Kyoto 606-8502, Japan
Tel: 81-75-753-4081
Fax: 81-75-705-1113
Email: satch@ascidian.zool.kyoto-u.ac.jp.
Location/Qualifiers
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                                                                               AV996055
AV996055.1 GI:19487389
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621 bp mRNA linear EST 27-MAY-2004
BW339646 Yutaka Satou unpublished cDNA library, embryo whole animal
Ciona intestinalis cDNA clone ciem813a02 5', mRNA sequence.
               EST 09-NOV-2002
                                                                                                                                                      Ciona intestinalis
Eukaryota; Metazoa; Chordata; Urochordata; Ascidiacea; Enterogona;
Phlebobranchia; Cionidae; Ciona.
1 (bases 1 to 609)
Satou, Y., Shin-i, T., Kohara, Y. and Satoh, N.
Expressed genes in Ciona intestinalis (2002c)
Unpublished (2002)
Contact: Nori Satoh
Department of Zoology
               609 bp mRNA linear EST 09-NOV-2002
BW247380 Nori Satoh unpublished cDNA library, tailbud embryo Ciona
intestinalis cDNA clone citb074j18 5', mRNA sequence.
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Ciona intestinalis
Ciona intestinalis
Eukaryota, Metazoa, Chordata, Urochordata, Ascidiacea, Enterogona,
Phlebobranchia, Clonidae, Ciona.
1 (bases 1 to 621)
Satou, Y., Shin-i, T., Kohara, Y. and Satoh, N.
Expressed genes in Ciona intestinalis (2004)
Unpublished (2004)
Contact: Yutaka Satou
Department of Zoology
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /tissue_type="whole animal"
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/clone_lib="Nori Satoh unpublished cDNA library, tailbud
embryo"
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Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                      Email: satoh@ascidian.zool.kyoto-u.ac.jp.
Location/Qualifiers
1. .609
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Sakyo-ku, Kyoto, Kyoto 606-8502, Japan
Tel: 81-75-753-4081
Fax: 81-75-705-1113
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Sakyo-ku, Kyoto, Kyoto 606-8502, Japan
1-18-18-175-753-4095
Fax: 81-75-705-1113
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BW339646.1 GI:47751447
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Best Local Similarity 100.
Matches 15; Conservative
                                                                                    BW247380
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BW339646/c
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AUTHORS
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I (basea I to 60; Satoh, N. Satoh, Y., Shin-i, T., Kohara, Y. and Satoh, N. Expressed genes in Ciona intestinalis (2004)
Contact: Yutaka Satou
Department of Zoology
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                                           Kyoto University
Sakyo-ku, Kyoto, Kyoto 606-8502, Japan
Tel: 81-75-753-4095
Fax: 81-75-705-1113
Email: yutaka@ascidian.zool.kyoto-u.ac.jp.
Location/Qualifiers
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Location/Qualifiers
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Sakyo-ku, Kyoto, Kyoto 606-8502, Japan
Tel: 81-75-753-4095
Fax: 81-75-705-1113
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    Contact: Yutaka Satou
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                            Department of Zoology
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Best Local Similarity 100.
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Best Local Similarity 100.
Matches 15; Conservative
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AV985099 636 bp mRNA linear EST 14-MAR-2002 AV985099 Nori Satch unpublished cDNA library, larva Ciona intestinalis cDNA clone cilv40k09 5', mRNA sequence.
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Ciona intestinalis
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Bukaryota, Metazoa, Chordata, Urochordata, Ascidiacea, Enterogona,
Phlebobranchia, Cionidae, Ciona.
1 (bases 1 to 636)
Satoh, N., Satou, Y., Kohara, Y. and Shin-i, T.
Expressed genes in Ciona intestinalis
Unpublished (2000)
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100.0%; Score 15; DB 5; I
Best Local Similarity 100.0%; Pred. No. 1.1e+03;
Matches 15; Conservative 0; Mismatches 0;
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Location/Qualifiers
                                                                                                                                       Email: satch@ascidian.zool.kyoto-u.ac.jp
Location/Qualifiers
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Unpublished (2002)
Contact: Nori Satch
Copatrment of Zoology
Kyoto University
Sakyo-ku, Kyoto, Kyoto 606-8502, Japan
Fax: 81-75-753-4081
Fax: 81-75-705-1113
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Sakyo-w, Kyoto, Kyoto 606-8502, Japan
Tel: 81-75-753-4081
Fax: 81-75-705-1113
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Department of Zoology
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Phlebobranchia, Cionidae, Ciona.
I (basea I to 625)
Satou, Y., Shin-i, T., Kohara, Y. and Satoh, N.
Expressed genes in Ciona intestinalis (2002c)
Unpublished (2002)
Contact: Nori Satoh
Department of Zoology
Kyoto University
Kyoto University
Tel: 81-75-753-4081
Fax: 81-75-705-1113
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Eukaryota; Metazoa; Chordata; Urochordata; Ascidiacea; Enterogona;
Phlebobranchia; Cionidae; Ciona.
1 (bases 1 to 635)
Satou, Y., Shin-i, T., Kohara, Y. and Satoh, N.
Expressed genes in Ciona intestinalis (2002c)
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embryo"
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100.0%; Pred. No. 1.1e+03;
iive 0; Mismatches 0; Indels
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Pred. No. 1.1e+03;
; Mismatches 0;
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Location/Qualifiers
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Best Local Similarity 100.0%; Pi
Matches 15; Conservative 0;
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BW244959.1 GI:24824877
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Best Local Similarity 100.
Matches 15; Conservative
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BW244959/c
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BW244394/c
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643 bp mRNA linear EST 03-JUN-2004 BW434148 Nori Satoh unpublished cDNA library, juvenile whole animal Ciona intestinalis cDNA clone cijv027pl0 5', mRNA sequence. BW434148 BW434148.1 GI:48132112 EST.
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Bukaryota, Metazoa, Chordata, Urochordata, Ascidiacea, Enterogona,

Phlebobranchia, Cionidae, Ciona.

1 (bases 1 to 643)

Satou, Y., Makayama, A., Shin-i,T., Kohara, Y. and Satoh, N.

Expressed genes in Ciona intestinalis (2004b)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /dev_stage="juvenile" /clone_lib="nori Satch unpublished cDNA_library, juvenile whole animal"
Bukaryota; Metazoa; Chordata; Urochordata; Ascidiacea; Enterogona; Phlebobranchia; Cionidae; Ciona.

1. (bases 1 to 640)
Satou,Y., Shin-i,T., Kohara,Y. and Satoh,N..
Expressed genes in Ciona intestinalis (2004)
Unpublished (2004)
Contact: Yutaka Satou
Department of Zoology
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
100.0%; Score 15; DB 5; Length 643;
Best Local Similarity 100.0%; Pred. No. 1.1e+03;
Matches 15; Conservative 0; Mismatches 0; Indels
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                                                                                                                                                                  Kyoto University
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Tel: 81-75-753-4095
Fax: 81-75-705-1113
Email: yutakadaacidian.zool.kyoto-u.ac.jp.
Location/Qualifiers
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Location/Qualiflers
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/mol_type="mkny"
/mol_type="cixon;"
/db_xref="caxon;7119"
/clone="cijv027p10"
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Department of Zoology
Kyoto University
Sakyo-ku, Kyoto, Kyoto 606-8502, Japan
Tel: 81-75-753-4081
Fax: 81-75-753-4113
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BW434148/C
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Grossman, A., Chang, C.-W., Davies, J., Sifflow, C. and Stern, D.
Analyses of the Chlamydomonas reinhardtii Genome: A Model,
Unicellular System for Analyzing Gene Function and Regulation in
Vascular Planta. Project: 1112
L Unpublished (2002)
Contect: Charles Hauser
DCMB Box 91000
Duke University
Durham, NC 27708-1000
Tel: 919 613 8177
Email: chauser@duke.edu.
Location/Qualifiers
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                                   EST 30-SEP-2002
                               BU655032 637 bp mRNA linear EST 30-SEP-200
1112117D10.yl C. reinhardtii CC-1690 (mt+), CC-1691 (mt-), Gamete
(normalized), Lambda Zap II Chlamydomonas reinhardtii cDNA, mRNA
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Chlamydomonas reinhardtii
Eukaryota; Viridiplantee; Chlorophyta; Chlorophyceae; Volvocales;
Chlamydomonadaceae; Chlamydomonas.
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100.0%; Score 15; DB 5; Length 637;
Best Local Similarity 100.0%; Pred. No. 1.1e+03;
Matches 15; Conservative 0; Mismatches 0; Indels
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BUĞ55032.1 GI:23367213
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RESULT 24 BW340838/c LOCUS

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us-10-789-536-6.rst

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648 bp mRNA linear EST 09-NOV-2002 BW259692 Nori Satch unpublished cDNA library, gastrula and neurula GCiona intestinalis cDNA clone cign021n07 5', mRNA sequence. BW229692.1 GI:24839610
                                                                                                                                                                                                                                                                                                                                                                                                             AV996231 Avri Satch unpublished cDNA library, tailbud embryo Ciona intestinalis cDNA clone citb43m11 5', mRNA sequence.
1. .646
/organism="Ciona intestinalis"
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/clone="ciem835o12"
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Ciona intestinalis
Ciona intestinalis
Ciona intestinalis
Eukaryota; Metazoa; Chordata; Urochordata; Ascidiacea; Enterogona;
Eukaryota; Metazoa; Cionidae; Ciona.

1 (bases 1 to 647)
Satoh,N., Satou,Y., Kohara,Y. and Shin-i,T.
Expressed genes in Ciona intestinalis
Unpublished (2000)
Contect: Nori Satoh
Department of Zoology
Kyoto University
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /tissue_type="whole animal"
/dev_stage="tailbud embryo"
/clone_lib="Nori Satch unpublished cDNA library, tailbud
embryo"
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Tel: 81-75-753-4081
Fax: 81-75-705-1113
Email: satch@ascidian.zool.kyoto-u.ac.jp.
Location/Qualifiers
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/db_xref="taxon:7719"
/clone="citb43m11"
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Best Local Similarity 100.0%; Pr
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Matches 15; Conserv
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AV996231/c
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Eukaryota, Metazoa, Chordata, Urochordata; Ascidiacea, Enterogona;

Phlebobranchia, Cionidae; Ciona.

Phlebobranchia, Cionidae; Ciona.

E I (bases 1 to 646)

Satou, Y., Shin-i, T., Kohara, Y. and Satoh, N.

Expressed genes in Ciona intestinalis (2004)

Contact: Yutaka Satou
Department of Zoology

Kyotc University
Sakyo-ku, Kyotc, Kyoto 606-8502, Japan
Tel: 81-75-753-4095
Fax: 81-75-75-1113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              646 bp mRNA linear BST 27-MAY-2004
BW347242 Yutaka Satou unpublished cDNA library, embryo whole animal
Ciona intestinalis cDNA clone ciem835o12 5', mRNA sequence.
BW347242
                                                                                                                                  AV988282 Nori Satoh unpublished cDNA library, tailbud embryo Ciona intestinalis cDNA clone citb29m05 5', mRNA sequence.
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Ciona intestinalis
Eukaryota, Metazoa, Chordata, Urochordata, Ascidiacea, Enterogona,
Phlebobranchia, Cionidae, Ciona.
1 (bases 1 to 645)
Satoh, N., Satou, Y., Kohara, Y. and Shin-i, T.
Expressed genes in Ciona intestinalis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /mol_type="mRNA"
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/clone="citb29m05"
/tissue_type="whole animal"
/dev_stage="tailbud embryo"
/clone_ib="Nori Satch unpublished cDNA library, tailbud embryo"
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Department of Zoology
Kyoto University
Sakyo-ku, Kyoto, Kyoto 606-8502, Japan
Tel: 81-75-753-4081
Fax: 81-75-705-1113
Email: satch@ascidian.zool.kyoto-u.ac.jp.
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llarity 100.0%; Pred. No. 1.1e+03;
Conservative 0; Mismatches 0;
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Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /organism="Ciona intestinalis"
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     GCATGACGTTGAGCT 15
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AV988282/c
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SM clona integerinalis
Eukaryota, Metazoa, Chordata, Urochordata; Ascidiacea, Enterogona,
Eukaryota, Metazoa, Chordata, Urochordata; Ascidiacea, Enterogona,
Phlebobranchia; Cionidae; Ciona.
El (bases i to 651)
Satoh, N., Satou, Y., Kohara, Y. and Shin-i, T.
Expressed genes in Ciona intestinalis
Loract: Nori Satoh
Department of Zoology
Kyoto University
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Tel: 81-75-753-4081
Fax: 81-75-753-4081
Fax: 81-75-753-4081
Fax: 81-75-753-4081
Fax: 81-75-705-1113
Email: satoh@sacidian.zool.kyoto-u.ac.jp.
Location/Qualifiers
1. 651
//organism="Ciona intestinalis"
//db_xref="taxon:7719"
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//dev_stage="taxon:7719"
                 Eukaryota, Metazoa, Chordata, Urochordata, Ascidiacea, Enterogona, Eukaryota, Metazoa, Chordata, Urochordata, Ascidiacea, Enterogona, Phlebobranchia, Cionidae, Ciona.

E 1 (bases 1 to 62)

Satou, Y., Shin-i, T., Kohara, Y. and Satoh, N.

Expressed genes in Ciona intestinalis (2002c)

Unpublished (2002)

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Tel: 81-75-73-4081
Fax: 81-75-73-4081
Email: satch@ascidian.zool.kyoto-u.ac.jp.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AV672198 Nori Satch unpublished cDNA library Ciona intestinalis cDNA clone citb2h7 5', mRNA sequence.
AV672198 I GI:10110197
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/tissue type="whole body"
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/clone lib="Nori Satch unpublished cDNA library, gastrula and neurula"
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Ciona intestinalis
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AV672198/c
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Query Match 100.0%;
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ORGANISM: Artificial Sequence
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| Sequence 5, Application US/09824468
| Patent No. US20020064515A1
| GENERAL INDORMATION:
| APPLICANT: Krieg, Arthur M.
| APPLICANT: Krieg, Arthur M.
| TITLE OF INVENTION: Methods and Products for Stimulating the
| TITLE OF INVENTION: Immune System Using Immunotherapeutic Oligonucleotides and
| TITLE OF INVENTION: Cytokines
| FILENG DATE: 2001-04-02
| PRIOR FILING DATE: 2001-04-02
| PRIOR FILING DATE: 1999-04-02
| NUMBER OF SEQ ID NOS: 105
| SEQ ID NO 5
| SEQ ID NO 5
| LENGTH: 15
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| Sequence 41, Application US/09824468 |
| General No. US202020064515A1 |
| General No. US202020064515A1 |
| APPLICANT: Krieg, Arthur M. |
| APPLICANT: Weiner, George |
| TITLE OF INVENTION: Immune System Using Immunotherapeutic Oligonucleotides and |
| TITLE OF INVENTION: OCYCARINES |
| TITLE OF INVENTION: OCYCARINES |
| TITLE OF INVENTION: CYCARINES |
| TITLE OF INVENTION: CYCARINES |
| TITLE OF INVENTION: CYCARINES |
| TITLE OF INVENTION: OCYCARINES |
| TITLE OF INVENTION: OCYCARINES |
| FILE REFERENCE: C1039/7026/HCL |
| CURRENT APPLICATION NUMBER: US/09/86,098 |
| PRIOR APPLICATION NUMBER: 09/286,098 |
| PRIOR APPLICATION NUMBER: 09/286,098 |
| PRIOR APPLICATION NUMBER: 09/286,098 |
| PRIOR FILING DATE: 1999-04-02 |
| SEQ ID NOS: 105 |
| SEQ ID NO 41 |
| LENGTH: 15 |
| LENGTH: 15
  Sequence 5, Appli
Sequence 66, Appli
Sequence 86, Appl
Sequence 766, App
Sequence 783, App
Sequence 835, Appli
Sequence 5, Appli
Sequence 5, Appli
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Best Local Similarity 100.0%; Pred. No. 1.9e+02;
Matches 15; Conservative 0; Mismatches 0;
US-10-877-369-5
US-10-816-220-5
US-10-831-778-66
US-10-831-778-766
US-10-831-778-765
US-10-831-778-785
US-10-831-778-835
US-10-876-955-5
US-10-888-886-5
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COTHER INFORMATION: Synthetic Sequence
US-09-824-468-5
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US-09-824-468-5
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Sequence 5, Application US/09800266A

Sequence 5, Application US/09800266A

Sequence 7, Application US/09800266A

Seneral INFORMATION:
APPLICANT: Bratzler, Robert L.
APPLICANT: Petersen, Deanna M.
TITLE OF INVENTION: Immunostimulatory Nucleic Acids and
TITLE OF INVENTION: Cancer Medicament Combination Therapy for the Treatment of
TITLE OF INVENTION: Cancer
FILE REFERENCE: C1037/7017HCL/MAT)
CURRENT APPLICATION NUMBER: US/09/800,266A

CURRENT FILING DATE: 2001-03-05

PRIOR FILING DATE: 2000-03-03

NUMBER OF SEQ ID NOS: 146

SEQ ID NO 5

LENGTH: 15

TENGTH: 15
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Patent No. US20020165178A1

GENERAL INFORMATION:

APPLICANT: Schetter, Christian

APPLICANT: Bratzler, Robert L.

APPLICANT: Petersen, Deanna M.

TITLE OF INVENTION: IMMUNOSTIMULATORY NUCLEIC ACIDS FOR THE

TITLE OF INVENTION: IMMUNOSTIMULATORY NUCLEIC ACIDS FOR THE

TITLE OF INVENTION: IMMUNOSTIMULATORY NUCLEIC ACIDS FOR THE

TITLE OF INVENTION: 10860051100 ANDER: US/09/695,007A

CURRENT FILING DATE: 2000-06-28

PRIOR PELICATION NUMBER: US 60/214,368

PRIOR FILING DATE: 2000-06-28

NUMBER OF SEQ ID NOS: 133

SOFTWARE: FastSEQ for Windows Version 3.0

SEQ ID NO 5

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100.0%; Score 15; DB 9; Length 15; 100.0%; Pred. No. 1.9e+02;
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Best Local Similarity 100.0%; Pred. No. 1.9e+02;
Matches 15; Conservative 0; Mismatches 0;
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                                                              0; Mismatches
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Sequence 65, Application US/0988326

Publication No. US20030026801A1

GENERAL INFORMATION:
APPLICANT: Weiner, George

APPLICANT: Weiner, George

TITLE OF INVENTION: Methods for Enhancing Antibody-Induced

TITLE OF INVENTION: Cell Lysis and Treating Cancer

FILE REFERENCE: C1039/7052 (AWS)

CURRENT APPLICATION NUMBER: US/09/888,326

CURRENT APPLICATION NUMBER: US/09/888,326

PRIOR FILING DATE: 2000-06-22

NUMBER OF SEQ ID NOS: 848

SOFTWARE: FastSEQ for Windows Version 3.0

LENGTH: 15
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APPLICANT: Hartmann, Gunther
TITLE OF INVENTION: Methods for Enhancing Antibody-Induced
TITLE OF INVENTION: Cell Lysis and Treating Cancer
TITLE OF INVENTION: Cell Lysis and Treating Cancer
FILE REPERENCE: C1039/7052 (AWS)
CURRENT APPLICATION NUMBER: US/09/888,326
CURRENT FILING DATE: 2001-06-22
PRIOR FILING DATE: 2000-06-22
NUMBER: OF SEQ ID NOS: 848
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 319
LENGTH: 15
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100.0%; Score 15; DB 10;
Best Local Similarity 100.0%; Pred. No. 1.9e+02;
Matches 15; Conservative 0; Mismatches 0;
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Best Local Similarity 100.0%; Pred. No. 1.9e+02;
Matches 15; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ; OTHER INFORMATION: Synthetic oligonucleotide; NAME/KEY: misc_feature; LOCATION: (0)...(0); OTHER INFORMATION: phosphodiester backbone US-09-888-326-65
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ; sequence 319, Application US/09888326; Publication No. US20030026801A1; GENERAL INFORMATION:
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US-09-888-326-320
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US-09-888-326-319
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100.0%; Score 15; DB 10; Length 15;
Best Local Similarity 100.0%; Pred. No. 1.9e+02;
Matches 15; Conservative 0; Mismatches 0; Indels
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Publication No. US20030026782A1;
GENERAL INFORMATION:
APPLICANT: Krieg, Arthur M.;
APPLICANT: Steinberg, Alfred D.;
TITLE OF INVENTION: IMMUNMODULATORY OLIGONUCLEOTIDES;
FILE REFERENCE: C1039/7029;
CURRENT APPLICATION NUMBER: US/09/415,142;
CURRENT APPLICATION NUMBER: US/09/415,142;
CURRENT APPLICATION NUMBER: US/09/415,142;
CURRENT FILING DATE: 1999-10-09;
PRIOR PILING DATE: 1995-02-07;
NUMBER OF SEC ID NOS: 27;
SOFTWARE: PastSEC for Windows Version 3.0
                                                                                                                                                                                                                                                       APPLICANT: Brezzler, Robert L.
APPLICANT: Brezzler, Robert L.
APPLICANT: Petersen, Deanna M.
TITLE OF INVENTION: Nucleic Acids for the Prevention and
TITLE OF INVENTION: Treatment of Gastric Ulcers
FILE REFERENCE: C1037/7019 (HCL/MAT)
CURRENT APPLICATION NUMBER: US/09/920,313
CURRENT FILING DATE: 2001-08-01
PRIOR FILING DATE: 2001-08-08
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SOFTWARE: PastSEQ for Windows Version 3.0
SEQ ID NO 5
LENGTH: 15
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; OTHER INFORMATION: Synthetic Sequence
US-09-920-313-5
                                                                                                                                                                               ; Sequence 5, Application US/09920313, Publication No. US20020198165A1 ; GENERAL INFORMATION:
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Best Local Similarity 100.0
Matches 15; Conservative
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US-09-888-326-65/c
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Publication No. US20030026801A1; GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Weiner, George
APPLICANT: Weiner, George
APPLICANT: Hartmann, Gunther
TITLE OF INVENTION: Methods for Enhancing Antibody-Induced
TITLE OF INVENTION: Cell Lysis and Treating Cancer;
FILE REFERENCE: C1039/7052 (AMS)
CURRENT APPLICATION NUMBER: US/09/888,326
CURRENT FILING DATE: 2001-06-22
PRIOR APPLICATION NUMBER: US 60/213,346
PRIOR PELICATION NUMBER: US 60/213,346
PRIOR PELICATION NUMBER: US 848
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 322
LENGTH: 15
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Pred. No. 1.9e+02;
; Mismatches 0;
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NAME/KEY: misc_feature
LOCATION: (0)...(0)
OTHER INFORMATION: phosphorothicate backbone
US-09-888-326-322
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Best Local Similarity 100.0%;
Matches 15; Conservative 0
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US-09-818-918-16
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NAME/KEY: misc_feature
LOCATION: (0)...(0)
OTHER INFORMATION: chimeric phosphorothioate/phosphodiester backbone
OTHER INFORMATION: with phosphorothioate at 5' and 3' ends
US-09-888-326-320
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        GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Wainer, George
APPLICANT: Harmann, Gunther
TITLE OF INVENTION: Methods for Enhancing Antibody-Induced;
TITLE OF INVENTION: Methods for Enhancing Antibody-Induced;
TITLE OF INVENTION: Methods for Enhancing Antibody-Induced;
TITLE OF INVENTION: Methods for Enhancing Cancer;
FILE REFERENCE: C1039/7052 (AMS);
CURRENT FILIG DATE: 2001-06-22
FRIOR APPLICATION NUMBER: US 60/213,346
FRIOR FILING DATE: 2000-06-22
NUMBER: OF SEQ ID NOS: 848
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 350
LENGTH: 15
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APPLICANT: Weiner, George
TITLE OF INVENTION: Methods for Enhancing Antibody-Induced
TITLE OF INVENTION: Cell Lysis and Treating Cancer
FILE REFERENCE: C1039/7062 (AWS)
CURRENT APPLICATION NUMBER: US/09/888,326
CURRENT FILING DATE: 2001-06-22
FRIOR FILING DATE: 2000-06-22
NUMBER OF SEQ ID NOS: 848
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 321
LENGTH: 15
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; LOCATION: (0)...(0)
; OTHER INFORMATION: phosphodiester backbone
18-09-888-326-331
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, Sequence 321, Application US/0988326

; Publication No. US20030026801A1

, GENERAL INFORMATION:
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US-09-888-326-322
; Sequence 322, Application US/09888326
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APPLICANT: Kline, Joel N.
APPLICANT: Kline, Joel N.
APPLICANT: Kline, Joel N.
APPLICANT: Kline, Joel N.
APPLICANT: Klinman, Dennis
APPLICANT: Steinberg, Alfred D.
TITLE OF INVENTION: Immunostimulatory Nucleic Acid Molecules
FILE REFERENCE: Cl039/7048 (AwS)
CURRENT APPLICATION UNDERE: US/09/818,918
CURRENT FILING DATE: 2001-03-27
PRIOR PILING DATE: 1994-07-15
PRIOR PILING DATE: 1995-02-07
PRIOR PILING DATE: 1995-02-07
PRIOR APPLICATION NUMBER: US 08/386,652
PRIOR PILING DATE: 1996-10-30
NUMBER OF SEQ ID NOS: 56
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NOS: 56
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APPLICANT: Kriega Arthur
APPLICANT: Kriega Arthur
APPLICANT: Kriega Arthur
APPLICANT: Kriega Arthur
APPLICANT: Stainberg, Alfred
TITLE OF INVENTION! Methods and Products for Treating HIV Infection
FILE REFERENCE: Cl039/7053(HCL)
CURRENT APPLICATION NUMBER: US/09/931,583
CURRENT PILING DATE: 2001-08-16
PRIOR PILING DATE: 1994-07-15
PRIOR PILING DATE: 1994-07-15
PRIOR FILING DATE: 1999-10-09
NUMBER OF SEQ ID NOS: 75
SOFTWARE: Patentin version 3.0
SEQ ID NO 6
LENGTH: 15
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100.0%; Pred. No. 1.9e+02;
tive 0; Mismatches 0;
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OTHER INFORMATION: Synthetic Oligonucleotide
                                                              Sequence 6, Application US/09931583
Publication No. US20030050263A1
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TYPE: DNA ORGANISM: Artificial Seguence
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Best Local Similarity
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US-09-776-479-86
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| Sequence 48, Application US/09818918
| Publication No. US2003050261A1
| GENERAL INFORMATION:
| APPLICANT: Krisey, Arthur M. APPLICANT: Klinman, Dennis
| APPLICANT: Klinman, Dennis
| APPLICANT: Steinberg, Alfred D. APPLICANT: Steinberg, Alfred D. TITLE OF INVENTION: Immunatory Nucleic Acid Molecules FILE REFERENCE: C1039/7048 (AWS)
| CURRENT APPLICATION INWHER: US/09/818,918
| CURRENT APPLICATION NUMBER: US 08/276,358
| PRIOR FILING DATE: 1994-07-15
| PRIOR PLING DATE: 1995-02-07
| PRIOR FILING DATE: 1995-02-07
| PRIOR FILING DATE: 1996-10-30
| NUMBER OF SEQ ID NOS: 56
| SOFTWARE: FRACSEQ for Windows Version 3.0
| SEG ID NO 48
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                                                                                        APPLICANT: ALLEY, ALLEY, ALLEY, ALLEY, APPLICANT: Kline, Joel N.
APPLICANT: Kline, Joel N.
APPLICANT: Klinman, Dennis
APPLICANT: Klinman, Dennis
ITILE OF INVENTION: Immunostimulatory Nucleic Acid Molecules
TITLE OF INVENTION: Immunostimulatory Nucleic Acid Molecules
FILE REFERENCE: Cl039/7048 (4MKS)
CURRENT APPLICATION NUMBER: US/09/818,918
CURRENT PILING DATE: 1994-07-15
PRIOR APPLICATION NUMBER: US 08/276,358
PRIOR PELLING DATE: 1995-02-07
PRIOR PELLING DATE: 1995-02-07
PRIOR APPLICATION NUMBER: US 08/738,652
PRIOR APPLICATION NUMBER: US 08/738,652
SPROR FILING DATE: 1995-10-30
NUMBER OF SEQ ID NOS: 56
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 16
LENGTH: 15
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100.0%; Score 15; DB 10; Length 15;
Best Local Similarity 100.0%; Pred. No. 1.9e+02;
Matches 15; Conservative 0; Mismatches 0; Indels
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Best Local Similarity 100.0%; Pred. No. 1.9e+02;
Matches 15; Conservative 0; Mismatches 0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             OTHER INFORMATION: Synthetic oligonucleotide
Sequence 16, Application US/09818918
Publication No. US20030050261A1
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ORGANISM: Artificial Sequence
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ORGANISM: Artificial Sequence
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                                                                              Krieg, Arthur M.
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                                          RESULT 16
US-09-776-479-66
; Sequence 66, Application US/09776479
; Publication No. US20030087848A1
; GENERAL INFORMATION:
; APPLICANT: Bratzler, Robert L.
; APPLICANT: Petersen, Deanna M.
; APPLICANT: Pourcon, Yves
; TITLE OF INVENTION: Immunostimulatory Nucleic Acids for the
; TITLE OF INVENTION: Treatment of Asthma and Allergy
FILE REFERENCE: C1037/7013 (HCL/MAT)
; CURRENT APPLICATION NUMBER: US/09/776, 479
; CURRENT FILING DATE: 2000-02-03
; RIORA APPLICATION NUMBER: US 60/179,991
; PRIOR APPLICATION NUMBER: US 60/179,991
; RIORARE FEASTSC for Windows Version 3.0
; SEQ ID NO 66
; LENGTH: 15
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100.0%; Score 15; DB 10;
Best Local Similarity 100.0%; Pred. No. 1.9e+02;
Matches 15; Conservative 0; Mismatches 0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORGANISM: Artificial Sequence
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TYPE: DNA
ORGANISM: Artificial Sequence
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Sequence 766, Application US/09776479

Publication No. US20030087848A1

SEMERAL INFORMATION:

APPLICANT: Bratzler, Robert L.

APPLICANT: Fouron, Yves

TITLE OF INVENTION: Immunostimulatory Nucleic Acids for the

TITLE OF INVENTION: Treatment of Asthma and Allergy

FILE REFERENCE: C1037/7013 (HCL/MAT)

CURRENT APPLICATION NUMBER: US/09/776,479

CURRENT FILING DATE: 2001-02-02

PRIOR PILING DATE: 2000-02-03

SPIOR RELING DATE: 2000-02-03

SOFTWARE: FastSEQ for Windows Version 3.0

SEQ ID NO 766

LENGTH: 15
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; Sequence 86, Application US/09776479; Publication No. US20030087848A1; GENERAL INFORMATION:
    APPLICANT: Bratzler, Robert L.
    APPLICANT: Brearsen, Deanna M.
    APPLICANT: Fouron, Yves
    TITLE OF INVENTION: Immunostimulatory Nucleic Acids for the FILE REFERENCE: Cl037/7013 (HCL/MAT); CURRENT APPLICATION NUMBER: US/09/776,479; CURRENT APPLICATION NUMBER: US 60/179,991
    PRIOR FILING DATE: 2000-02-03
    NUMBER OF SEQ ID NOS: 1093
    SOFTWARE: FastSEQ for Windows Version 3.0
    SEQ ID NO 86
    LENTH: 15
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100.0%; Pred. No. 1.9e+02;
tive 0; Mismatches 0;
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; OTHER INFORMATION: Synthetic Sequence
US-09-776-479-766
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'Sequence 783, Application US/09776479

'Publication No. US20030087848A1

'GENERAL INFORMATION:

'APPLICANT: Bratzler, Robert L.

'APPLICANT: Petersen, Deanna M.
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ORGANISM: Artificial Sequence
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Matches 15; Conservative
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US-09-776-479-766
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; Bublication No. US20030087848A1
; GENERAL INFORMATION:
APPLICANT: Bratzler, Robert L.
APPLICANT: Petersen, Deanna M.
APPLICANT: Petersen, Deanna M.
TITLE OF INVENTION: Immunostimulatory Nucleic Acids for the TITLE OF INVENTION: 1037/7013 (HCL/MAT)
FILE REFERENCE: C1037/7013 (HCL/MAT)
CURRENT FILING DATE: 2001-02-02
PRIOR PILING DATE: 2001-02-03
; PRIOR FILING DATE: 2000-02-03
; NUMBER OF SEQ ID NOS: 1093
; SOFTWARE: FastSEQ for Windows Version 3.0
; SEQ ID NO 835
HPLICANT: Fouron, Yves
TITLE OF INVENTION: Immunostimulatory Nucleic Acids for the
TITLE OF INVENTION: Tractment of Asthma and Allergy
FILE REFERENCE: C1037/7013 (HCL/MAT)
CURRENT APPLICATION NUMBER: US/09/776,479
CURRENT APPLICATION NUMBER: US 60/179,991
PRIOR APPLICATION NUMBER: US 60/179,991
SEQ ID NOS: 1093
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 783
LENGTH: 15
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US-09-954-987B-53

Sequence 53, Application US/09954987B

Publication No. US20030104523A1

GENERAL INFORMATION:

APPLICANT: Stefan Bauer

APPLICANT: Herman Wagner

TITLE OF INVENTION: PROCESS FOR HIGH THROUGHPUT SCREENING OF

TITLE OF INVENTION: CpG-BASED IMMUNO-AGONIST/ANTAGONIST

TITLE OF INVENTION: USP-09-954,987B

CURRENT APPLICATION NUMBER: US/09/954,987B
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100.0%; Score 15; DB 10;
Best Local Similarity 100.0%; Pred. No. 1.9e+02;
Matches 15; Conservative 0; Mismatches 0;
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100.0%; Score 15; DB 10;
Best Local Similarity 100.0%; Pred. No. 1.9e+02;
Matches 15; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   , OTHER INFORMATION: Synthetic Sequence
US-09-776-479-783
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ) OTHER INFORMATION: Synthetic Sequence US-09-776-479-835
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US-09-874-991C-140
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APPLICANT: FLORA, MICHAEL
APPLICANT: KLINMAN, DENNIS M.
TITLE OF INVENTION: IMMUNOSTIMULATORY RNA/DNA HYBRID MOLECULES
FILE REPERENCE: 07797.0042-0
CURRENT APPLICATION NUMBER: US/09/874,991C
CURRENT FILING DATE: 2001-06-07
PRIOR APPLICATION NUMBER: 60/209,797
PRIOR FILING DATE: 2000-06-07
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APPLICANT: KLINMAN, DENNIS M.
TITLE OF INVENTION: IMMUNOSTIMULATORY RNA/DNA HYBRID MOLECULES
FILE REPERENCE: 07787.0042-0
CURRENT APPLICATION NUMBER: US/09/874,991C
CURRENT FILING DATE: 2001-06-07
                                                                                                                                                                                                                                                                                                                                                                                                                       Score 15; DB 10; Length 15;
Pred. No. 1.9e+02;
; Mismatches 0; Indels
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100.0%; Score 15; DB 11;
Best Local Similarity 100.0%; Pred. No. 1.9e+02;
Matches 15; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                       ; OTHER INFORMATION: Synthetic oligonucleotide US-09-954-987B-53
PRIOR APPLICATION NUMBER: US 60/233,035
PRIOR FILING DATE: 2000-09-15
PRIOR PILING DATE: 2000-09-15
PRIOR PILING DATE: 2000-01-23
PRIOR PILING DATE: 2001-01-23
PRIOR PILING DATE: 2001-05-17
PRIOR PILING DATE: 2001-05-17
PRIOR PILING DATE: 2001-05-17
PRIOR FILING DATE: 2001-06-22
NUMBER OF SEQ ID NOS: 230
SOFTWARE: FateSEQ for Windows Version 3.0
SSOFTWARE: FateSEQ for Windows Version 3.0
ERNGTH: 15
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APPLICANT: MOND, JAMES J.
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APPLICANT: WOND, JAMES J.
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Best Local Similarity 100.0%; P:
Matches 15; Conservative 0;
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ORGANISM: Artificial Sequence
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SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 29
LENGTH: 15
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US-09-874-991C-95
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US-09-874-991C-29
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US-09-874-991C-116
US-09-874-991C-116
Sequence 116, Application US/09874991C
PUBLication No. US20040052763A1
GENERAL INFORMATION:
APPLICANT: MOND, JAMES J.
APPLICANT: FLORA, MICHAEL
APPLICANT: KLINMAN, DENNIS M.
TITLE OF INVENTION: IMMUNOSTIMULATORY RNA/DNA HYBRID MOLECULES
FILE REFERENCE: 07787. 0042-0
CURRENT FILING DATE: 2001-06-07
CURRENT PILING DATE: 2000-06-07
PRIOR FILING DATE: 2000-06-07
NUMBER OF SEQ ID NOS: 620
SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 116
LENGTH: 15
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Publication No. US20040052763A1
GENERAL INFORMATION:
APPLICANT: MOND, JAMES J.
APPLICANT: FLORA, MICHAEL
TITLE OF INVENTION: IMMUNOSTIMULATORY RNA/DNA HYBRID MOLECULES
FILE REPERENCE: 07787.0042-0
                                                                                                                                                                                                                                                                                         Length 15;
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Best Local Similarity 100.0%; Pred. No. 1.9e+02;
Matches 15; Conservative 0; Mismatches 0;
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PRIOR APPLICATION NUMBER: 60/209,797
PRIOR FILING DATE: 2000-06-07
NUMBER OF SEQ ID NOS: 620
SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 95
LENGTH: 15
                                                                                                                                                 TYPE: DNA
ORGANISM: Artificial Sequence
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SOFTWARE: PatentIn Ver. 2.1
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Matches 15; Conservative 0
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ORGANISM: Artificial Sequence
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ORGANISM: Artificial Sequence
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Best Local Similarity 100.
Matches 15; Conservative
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US-09-874-991C-188
                                        ; OTHER INFORMATION: Description of Artificial Sequence: Synthetic HDR US-09-874-991C-140
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US-09-874-991C-167
                                                                                                                                                                                                                                                                                                                     Sequence 167, Application US/09874991C

Publication No. US20040052763A1

GENERAL INFORMATION:

APPLICANT: MOND, JAMES J.

APPLICANT: FLORA, MICHAEL

APPLICANT: KLINWAN, DENNIS M.

FILE OF INVENTION: IMMUNOSTIMULATORY RNA/DNA HYBRID MOLECULES

FILE REFERENCE: 07787 .0042-0

CURRENT FILING DATE: 2001-06-07

PRIOR APPLICATION NUMBER: 60/209,797

PRIOR FILING DATE: 2000-06-07

NUMBER OF SEQ ID NOS: 620

SOFTWARE: Patentin Ver. 2.1

SEQ ID NO 167

LENGTH: 15
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Publication No. US20040052763A1
GENERAL INFORMATION:
APPLICANT: MINORMATION:
APPLICANT: FLORA, MICHAEL
APPLICANT: KLINMAN, DENNIS M.
TITLE OF INVENTION: INMUNOSTIMULATORY RNA/DNA HYBRID MOLECULES
FILE REFERENCE: 07787.0042-0
CURRENT PAPLICATION NUMBER: US/09/874,991C
CURRENT FILING DATE: 2001-06-07
PRIOR PLILING DATE: 2000-06-07
NUMBER OF SEQ 1D NOS: 620
SOFTWARE: Patentin Ver. 2.1
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100.0%; Score 15; DB 11;
Best Local Similarity 100.0%; Pred. No. 1.9e+02;
Matches 15; Conservative 0; Mismatches 0;
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ORGANISM: Artificial Sequence
    ORGANISM: Artificial Sequence
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LENGTH: 15
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// OTHER INFORMATION: Description of Artificial Sequence: Synthetic HDR US-09-874-991C-427
GENORAL SOLUTION NO. US/09874991C
; Sequence 408, Application US/09874991C
; Publication No. US20040052763A1
; GENERAL INPORMATION:
APPLICANT: MOND, JAMES J.
APPLICANT: FLORA, MICHAEL
; APPLICANT: KLINMAN, DENNIS M.
TITLE OF INVENTION: IMMUNOSTIMULATORY RNA/DNA HYBRID MOLECULES
FILE REFERENCE: 07787.0042-0
; CURRENT FILING DATE: 2001-06-07
; PRIOR APPLICATION NUMBER: 60/209,797
; PRIOR PILING DATE: 2000-06-07
; NUMBER OF SEQ ID NOS: 620
; SOFTWARE: Patentin Ver. 2.1
; SEQ ID NO 408
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APPLICANT: MICHAEL
APPLICANT: KICHAN, MICHAEL
APPLICANT: KICHAN, MICHAEL
APPLICANT: KICHAN, DENNIS M.
TITLE OF INVENTION: IMMUNOSTIMULATORY RNA/DNA HYBRID MOLECULES
FILE REPERENCE: 07787/0042-0
CURRENT APPLICATION NUMBER: US/09/874,991C
CURRENT FILING DATE: 2001-06-07
PRIOR PELICANION NUMBER: 60/209,797
PRIOR FILING DATE: 2000-06-07
NUMBER OF SEQ ID NOS: 620
SOFTWARE: PATENTIN Ver. 2.1
SEQ ID NO 427
LENGTH: 15
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RESULT 30

US-09-776-479-66

i Sequence 66, Application US/09776479

j Publication No. US20040067902A9

j GENERAL INFORMATION:

APPLICANT: Bretarian. Yees

j TITLE OF INVENTION: Immunosimulatory Nucleic Acids for the

TITLE OF INVENTION: Treatment of Asthma and Allergy

CURRENT PILING DATE: 2001-02-02

PRIOR FILING DATE: 2000-02-03

NUMBER OF SEQ ID NOS: 1093

SEQ ID NO 66

LENGTH: 15

TYPE: DNA

ORGANISM: Artificial Sequence

FEATURE:

OTHER INFORMATION: Synthetic Sequence

FEATURE:

OTHER INFORMATION: Synthetic Sequence

SEATURE:

SCOTE 15; DB 11; Length 15;

Best Local Similarity 100.0%; Pred. No. 1.9e+02;

Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
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Search completed: September 3, 2005, 10:09:05 Job time: 440.714 secs

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September 3, 2005, 07:10:49; Search time 85.2857 Seconds (without alignments) 287.787 Million cell updates/sec
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Maximum Match 100%
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Sequence:
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

Issued Patents NA:*

1. /cgn2_6/ptodata/1/ina/5A_COMB.seq:*

2. /cgn2_6/ptodata/1/ina/5B_COMB.seq:*

3. /cgn2_6/ptodata/1/ina/6B_COMB.seq:*

5. /cgn2_6/ptodata/1/ina/PCTUS_COMB.seq:*

5. /cgn2_6/ptodata/1/ina/PCTUS_COMB.seq:*

6. /cgn2_6/ptodata/1/ina/PCTUS_COMB.seq:*

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Database:

Description	Sequence 6, Appli 6, Sequence 6, Appli 16 Sequence 16, Appli 24 Sequence 16, Appli 25 Sequence 21, Appli 26 Sequence 21, Appli 27 Sequence 5, Appli 28 Sequence 5, Appli 29 Sequence 5, Appli 20 Sequence 6, Appli 21 Sequence 1537, Appli 21 Sequence 1537, Appli 22 Sequence 1537, Appli 24 Sequence 1537, Appli 25 Sequence 1539, Appli 26 Sequence 15297, Appli 26 Sequence 15297, Appli 26 Sequence 15297, Appli 26 Sequence 15297, Appli 26 Sequence 1537, Appli 26 Sequence 1537, Appli 26 Sequence 261, Appli 26 Sequence 273, Appli 273 Sequence 1840, Appli 273 Sequence 1840, Appli 273 Sequence 1840, Appli 2726 Sequence 273, Appli
SUMMARIES	US-08-386-063-6 US-08-386-063-6 US-08-386-063-6 US-08-386-063-6 US-08-386-052-4 US-08-386-098-41 US-09-286-098-41 US-09-286-098-41 US-09-286-098-41 US-09-191-170-5 US-09-191-170-5 US-09-902-540-18327 US-09-902-540-18327 US-09-902-540-18327 US-09-903-903-903-903-903-903-903-903-903-
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DB	i
Query Match Length	3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
& Query Match	88993338899339
Score	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4
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13.4 89.3 30.39 4 US-09-620-312D-675 13.4 89.3 30.08 2 US-08-972-631-3 13.4 89.3 30.08 2 US-08-972-610-3 13.4 89.3 30.08 3 US-09-225-170-3 13.4 89.3 110320 4 US-09-919-15.01B-7 13.4 89.3 110320 4 US-09-919-16-11468 13.4 89.3 110320 4 US-09-919-16-1215 13.4 89.3 11053 4 US-09-919-16-1215 13.4 89.3 11053 4 US-09-919-16-1215 13.4 89.3 110475 4 US-09-919-16-1217 13.4 89.3 101475 4 US-09-919-16-1277 13.4 89.3 101475 4 US-09-919-16-1277 13.5 60.7 60.1 4 US-09-919-16-1277 13.6 7 7 7 7 7 7 7 13.7 86.7 7 7 7 7 14.7 86.7 7 7 7 7 15.5 7 7 7 7 7 7 15.5 7 7 7 7 7 7 15.5 7 7 7 7 7 7 15.5 7 7 7 7 7 7 15.5 7 7 7 7 7 7 15.5 7 7 7 7 7 7 15.5 7 7 7 7 7 7 15.5 7 7 7 7 7 7 15.5 7 7 7 7 7 7 15.5 7 7 7 7 7 7 7 15.5 7 7 7 7 7 7 7 15.5 7 7 7 7 7 7 7 15.5 7 7 7 7 7 7 7 15.5 7 7 7 7 7 7 7 15.5 7 7 7 7 7 7 7 15.5 7 7 7 7 7 7 7 15.5 7 7 7 7 7 7 7 15.5 7 7 7 7 7 7 7 15.5 7 7 7 7 7 7 7 15.5 7 7 7 7 7 7 7 15.5 7 7 7 7 7 7 7 15.5 7 7 7 7 7 7 7 15.5 7 7 7 7 7 7 7 15.5 7 7 7 7 7 7 7 15.5 7 7 7 7 7 7 7
13.4 89.3 3039 13.4 89.3 3808 2 13.8 6.7 2085 5 13.8 6.7 2085 5 13.8 6.7 2085 5 12.4 82.7 2085 5 12.4 82.7 2085 5 12.4 82.7 2085 5 12.4 82.7 2085 5 12.4 82.7 2085 5 12.4 82.7 2085 5 12.4 82.7 2085 5 12.4 82.7 2085 5 12.4 82.7 2085 6 12.4 82.7 2085 6 12.4 82.7 2085 6 12.4 82.7 2085 6 12.4 82.7 2085 6 12.4 82.7 208 6 12.4 82.8 208
13.4 89.3 3039 13.4 89.3 3808 13.4 89.3 3808 13.4 89.3 3808 13.4 89.3 3808 13.4 89.3 3808 13.4 89.3 3808 13.4 89.3 3808 13.4 89.3 10606 13.4 89.3 10606 13.4 89.3 10606 13.4 89.3 10606 13.4 89.3 10606 13.4 89.3 10606 13.4 89.3 10606 13.4 89.3 10606 13.4 89.3 10606 13.4 89.3 10606 13.4 89.3 10606 13.4 89.3 10606 13.4 89.3 10606 13.8 6.7 1089 13.8 6.7 1
133.3.3.4.4.4.4.4.4.4.4.4.4.4.4.4.4.4.4.
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ALIGNMENTS

RESULT 1 US-08-386-063-6 ; Sequence 6, Application US/08386063 Patent No. 6008200 ; GENERAL INFORMATION:

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Gaps
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Sequence 6, Application US/08738652B

Sequence 6, Application US/08738652B

Patent No. 6207646

GENERAL INFORMATION:

APPLICANT: Krieg, Arthur M.

TITLE OF INVENTION: Immunostimulatory Nucleic Acid Molecules

FILE REFERENCE: C1039/7004 HCL

CURRENT APPLICATION NUMBER: US/08/738,652B

CURRENT PILING DATE: 1994-10-715

BARLIER APPLICATION NUMBER: US 08/276,358

BARLIER APPLICATION NUMBER: US 08/376,063

BARLIER FILING DATE: 1995-00-77

NUMBER OF SEQ ID NOS: 55

SOFTWARE: PastSEQ for Windows Version 3.0

SEQ ID NO 6

LENGTH: 15
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Sequence 16, Application US/08738652B

Fatent No. 6207646

GENERAL INFORMATION:

APPLICANT: Krieg, Arthur M.

TITLE OF INVENTION: Immunostimulatory Nucleic Acid Molecules
FILE REFERENCE: C1039/7004 HCL

CURRENT APPLICATION NUMBER: US/08/738,652B

CURRENT PILING DATE: 1994-10-15

EARLIER FILING DATE: 1994-07-15

EARLIER FILING DATE: 1994-07-15

EARLIER FILING DATE: 1995-07-15

SALIER FILING DATE: 1995-07-7

NUMBER OF SEQ ID NOS: 55

SOFTWARE PRESES FALING PAIR: 1995-07

LENGTH: 15

LENGTH: 15
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                TELEFAX: (617)227-5941
INFORMATION FOR SEQ ID NO: 6
SEQUENCE CHARACTERISTICS:
LENGTH: 15 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
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Best Local Similarity 100.
Matches 15; Conservative
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                                                                                                                                                              ; TOPOLOGY: linear; MOLECULE TYPE: DNA US-08-386-063-6
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Best Local Similarity
Matches 15; Conserv
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Patent No. 6194388
GENERAL INFORMATION:
PAPLICANT:
TITLE OF INVENTION: IMMUNOMODULATORY OLIGONUCLEOTIDES
NUMBER OF SEQUENCES: 27
CORRESPONDENCES: 27
CORRESPONDENCES: ADDRESS:
ADDRESSEE: LAHIVE & COCKPIELD
STREET: 60 STATE STREET, SUITE 510
APPLICANT: Arthur M. Krieg, M.D.
TITLE OF INVENTION: IMMUNOMODULATORY OLIGONUCLEOTIDES
NUMBERS OF SEQUENCES: 27
CORRESPONDENCE ADDRESS:
ADDRESSEE: LAHIVE & COCKFIELD
STREET: 60 STATE STREET, SUITE 510
                                                                                                       STREET: 60 STATE STREET, SUITE 510
CITY: BOSTON
STATE: MASSACHUSETTS
COUNTRY: USA
ZIP: 02109-1875
COMPUTER: READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII text
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/386,063
FILING DATE:
CLASSIFICATION: 424
ATTORNEY/AGENT INFORMATION:
NAME: ARNOLD, BETH E.
RESISTRATION NUMBER: 35,430
REFERENCE/DOCKET NUMBER: 35,430
REFERENCE/DOCKET NUMBER: 35,430
TELECHOME: (617)227-7400
TELECHOME: (617)227-7400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CITY: BOSTON
STATE: MASSACHUSETTS
COUNTY: USA
ZIP: 02109-1875
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
COMPUTER: OSSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII text
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/386,063
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ATTORNEY/AGENT INFORMATION:
NAME: ARNOLD, BETH E.
REGISTRATION NUMBER: 35,430
REFERENCE/DOCKET NUMBER: UIZ-013CP
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             INFORMATION FOR SEQ ID NO: 6: SEQUENCE CHARACTERISTICS: LENGTH: 15 base pairs TYPE: nucleic acid STRANDEDNESS: single
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Best Local Similarity 100.0
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US-08-386-063-6
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RESULT 7
US-09-286-098-5

J Sequence 5, Application US/09286098

Sequence 5, Application US/09286098

Patent No. 6218371

GENERAL INFORMATION:

APPLICANT: Karieg, Arthur M.

APPLICANT: Weiner, George

TITLE OF INVENTION: Immune System Using Immunotherapeutic Oligonucleotides and

TITLE OF INVENTION: Oytokines

TITLE OF INVENTION: Oytokines

TITLE OF INVENTION: Oytokines

TITLE OF INVENTION: Oytokines

TITLE OF INVENTION: UMMBER: US/09/286,098

CURRENT APPLICATION NUMBER: US 60/080,729

EARLIER APPLICATION NUMBER: US 60/080,729

EARLIER PILING DATE: 1998-04-03

NUMBER OF SEQ ID NOS: 105

SEQ ID NO 5

LENGTH: 15

LENGTH: 15
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Sequence 41, Application US/09286098

Sequence 41, Application US/09286098

Settle No. 6218371

GENERAL INFORMATION:

APPLICANT: Wainer, George

TITLE OF INVENTION: Immune System Using Immunotherapeutic Oligonucleotides and
TITLE OF INVENTION: Immune System Using Immunotherapeutic Oligonucleotides and
TITLE OF INVENTION: UnwBER: US/09/286,098

CURRENT APPLICATION NUMBER: US/09/286,098

CURRENT FILING DATE: 1998-04-02

BARLIER FILING DATE: 1998-04-03

NUMBER OF SEQ ID NOS: 105

SOFTWARE: FBSELSEQ for Windows Version 3.0

SEQ ID NO 41

LENGTH: 15
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100.0%; Score 15; DB 3; Length 15;
Best Local Similarity 100.0%; Pred. No. 23;
Matches 15; Conservative 0; Mismatches 0; Indels
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    Mismatches
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ORGANISM: Artificial Sequence
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Best Local Similarity 100.
Matches 15; Conservative
    15; Conservative
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US-09-286-098-41
    Matches
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APPLICANT: Krieg, Arthur M.
APPLICANT: Schwartz, David A.
TITLE OF INVENTION: USE ON HUCLEIC ACIDS CONTAINING
TITLE OF INVENTION: UNMETHYLATED CpG DINUCLEOTIDE IN THE TREATMENT OF
TITLE OF INVENTION: LPS-ASSOCIATED DISORDERS
FILE REFERENCE: C1039/1011
CURRENT APPLICATION NUMBER: US/09/030,701B
CURRENT PILING DATE: 1998-02-25
FRIOR FILING DATE: 1997-02-28
NUMBER OF SEQ ID NOS: 65
SOFTWARE: FABELSEQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                Sequence 48, Application US/08738652B

Facent No. 6207646

GENERAL INFORMATION:

APPLICATT: Krieg, Arthur M.

TILLE OF INVENTION:

FILE REFERENCE: C1039/7004 HCL

CURRENT FILING DATE: 1996-10-30

EARLIER APPLICATION NUMBER: US/08/738,652B

CURRENT FILING DATE: 1996-10-30

EARLIER APPLICATION NUMBER: US/08/386,063

EARLIER FILING DATE: 1996-07-15

EARLIER FILING DATE: 1995-02-07

NUMBER OF SEQ ID NOS: 55

SEQ ID NO 48

LENGTH: 15
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Best Local Similarity 100.0%; Pred. No. 23; Length 15;
Matches 15; Conservative 0; Mismatches 0; Indels
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23;
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Pred. No. 23;
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         ; FEATURE:
; OTHER INFORMATION: Synthetic oligonucleotide
US-08-738-652-16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       OTHER INFORMATION: Synthetic oligonucleotide
                                                                                              Query Match
100.0%; Score 15; DB
Best Local Similarity 100.0%; Pred. No. 23;
Matches 15; Conservative 0; Mismatches
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Pred. No.
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Best Local Similarity
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LENGTH: 15
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Gaps

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Query Match 100.0%; Score 15; DB 3; Length 15; Best Local Similarity 100.0%; Pred. No. 23; Matches 15; Conservative 0; Mismatches 0; Indels
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                                                                                                                                                                                     ; OTHER INFORMATION: Synthetic Oligonucleotide
US-09-325-193A-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mismatches
PRIOR FILING DATE: 1997-03-10
NUMBER OF SEQ ID NOS: 98
SOFWHARE: FastSEQ for Windows Version 3.0
SEQ ID NO 5
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                                                                                                                      TYPE: DNA ORGANISM: Artificial Sequence
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Best Local Similarity 100.0
Matches 15; Conservative
                                                                                              LENGTH: 15
                                                                                                                                                                    FEATURE:
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Sequence 5, Application US/09325193A

Patent No. 6406705

GENERAL INFORMATION:
APPLICANT: Davis, Heather L.
APPLICANT: Schorr, Joachim
APPLICANT: Schorr, Arbur M.
TITLE OF INVENTION: Unmethylated CpG Dinucleotide as an Adjuvant
FILE REFERENCE: C1039/7025/HCL
CURRENT APPLICATION NUMBER: US/09/325,193A

CURRENT FILING DATE: 1999-06-16

PRIOR FILING DATE: 1998-09-16

PRIOR FILING DATE: 1998-09-16

PRIOR FILING DATE: 1998-03-10

PRIOR APPLICATION NUMBER: US 09/154,614

PRIOR APPLICATION NUMBER: US 09/154,614

PRIOR APPLICATION NUMBER: US 09/154,614
                                                                                                                                    GENERAL INFORMATION:
APPLICANT: Krieg et al.,
TILLE OF INVENTION: IMMUNOSTIMULATORY NUCLEIC ACID MOLECULES
NUMBER OF SEQUENCES:
ADDRESSEE: Fish & Richardson P.C.
STREET: 4225 Executive Square, Suite 1400
CITY: La Jolla
STATE: CA
COUNTRY: USA
ZIP: 92037
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ;
0
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MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: ASCIL text

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/960,774

FILING DATE: 30-October-1997

CLASSIFICATION DATA:

APPLICATION NUMBER: US, 1996

CLASSIFICATION NUMBER: US, 1996

CLASSIFICATION: 514

APPLICATION NUMBER: US, 1996

CLASSIFICATION: 514

ATTORNEY/AGENT INFORMATION:

NAME: Haile, Lisa A.

REGISTRATION NUMBER: 08918/012001

TELECOMMUNICATION INFORMATION:

TELECOMMUNICATION INFORMATION:

TELEPHONE: 619/678-5070

TELEPHONE: 619/678-5099

INFORMATION FOR SEQ IN NO. 6:

SEQUENCE CHARACTERISTICS:

LENGTH: 15 base pairs

TYPE: nucleic acid

STREE COMPANDENES: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 100.0%; Score 15; DB 3; Length 15; 100.0%; Pred. No. 23; tive 0; Mismatches 0; Indels
                                                                                           Sequence 6, Application US/08960774 Patent No. 6239116
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hes 15; Conservative
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                                                                      US-08-960-774-6
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Best Local S
Matches 15
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US-09-191-170-5

// Sequence 5, Application US/09191170

// Sequence 5, Application US/09191170

// Patent No. 6429199

// APPLICANT: Krieg, Arthur M.

// APPLICANT: Hartmann, Gunther

// TITLE OF INVENTION: Immunostimulatory Nucleic Acid Molecules

// TITLE OF INVENTION: 1996-11-13

// PARLIER APPLICATION NUMBER: US 08/960,774

// EARLIER FILING DATE: 1996-10-30

// EARLIER APPLICATION NUMBER: US 08/276,358

// EARLIER FILING DATE: 1994-07-15

// NUMBER OF SEQ ID NOS: 99

// SOFTWARE: PastSEQ for Windows Version 3.0

// TENCENT 15

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Patent No. 6653292

GENERAL INFORMATION:

TITLE OF INVENTION: Methods of Treating Cancer Using

TITLE OF INVENTION: Immunostimulatory Oligonucleotides

FILE REFERENCE: C1039/7021/HCL

CURRENT APPLICATION NUMBER: US/09/337,619

CURRENT FILING DATE: 1999-06-21

FRALIER PELING DATE: 1997-10-30

EARLIER APPLICATION NUMBER: US 08/738,652
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US-09-337-619-6
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Query Match
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Sequence 16327, Application US/09949016

Patent No. 681239

GENERAL INFORMATION:

TITLE OF INVENTION: POLYMORPHISMS IN KNOWN GENES ASSOCIATED

TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF;

TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF;

TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF;

CURRENT APPLICATION NUMBER: 60/2914

PRIOR APPLICATION NUMBER: 60/231,768

PRIOR FILING DATE: 2000-10-03

PRIOR FILING DATE: 2000-09-08

NUMBER OF SEQ ID NOS: 207012

SEQ ID NO 16327

LENGTH: 31573
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; Patent No. 6833447
; GENERAL INFORMATION:
; APPLICANT: Goldman, Barry S.
; APPLICANT: Hinkle, Gregory J.
; APPLICANT: Hinkle, Gregory J.
; APPLICANT: Magand, Roger C.
; APPLICANT: Waxococus xanthus Genome Sequences and Uses Thereof
; TITLE OF INVENTION: Wyxococus xanthus Genome Current APPLICATION NUMBER: US/09/902,540
; CURRENT PELING DATE: 2001-07-10
; PRIOR APPLICATION NUMBER: 60/217,883
; PRIOR FILING DATE: 2000-07-10
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2.5e+02;
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Best Local Similarity 100.0%; Pred. No. 23;
Matches 15; Conservative 0; Mismatches 0; Indels
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                                                                                                                                                                                                                                                                      j OTHER INFORMATION: Synthetic Oligonucleotide
US-09-337-619-6
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; EARLIER FILING DATE: 1996-10-30; EARLIER APPLICATION NUMBER: US 08/386,063; EARLIER FILING DATE: 1995-00-07; EARLIER FILING DATE: 1994-07-15; EARLIER FILING DATE: 1994-07-15; NUMBER OF SEQ ID NOS: 123; SOFTWARE: PSECSEQ for Windows Version 3.0; SEQ ID NO 6; EENCTH: 15
                                                                                                                                                                                                                            ORGANISM: Artificial Sequence
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US-09-949-016-16327/c
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US-09-902-540-3305/c
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RESULT 15
US-09-543-681A-1544/C
US-09-543-681A-1544/C
Sequence 1544, Application US/09543681A
Sequence 1544, Application US/09543681A
Sequence 1544, Application US/09543681A
Sequence 1544, Application US/09-1061
GENERAL INFORMATION:
TITLE OF INVENTION: UUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO PROTEUS MIRABIT TITLE OF INVENTION: UNMERS: US/09/543,681A
CURRENT APPLICATION UNMBER: US/09/543,681A
CURRENT FILING DATE: 2000-04-05
PRIOR APPLICATION NUMBER: US 60/128,706
PRIOR FILING DATE: 1999-04-09
NUMBER OF SEQ ID NOS: 8344
SEQ ID NO 1544
LENGTH: 519
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US-09-543-681A-1598/C
US-09-543-681A-1598/C

y Sequence 1598, Application US/09543681A
y Patent No. 6605709
y Patent No. 6605709
y Patent No. 6605709
y PATICE OF INVENTION: UNCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO PROTEUS MIRABI
y TITLE OF INVENTION: DIAGNOSTICS AND THERAPEUTICS
y FILE REFERENCE: 2709.1002-001
y CURRENT APPLICATION NUMBER: US/09/543,681A
y CURRENT FILING DATE: 1999-04-05
y PRIOR FILING DATE: 1999-04-09
y NUMBER OF SEQ ID NOS: 8344
y SEQ ID NO 1598
y LENGTH: 552
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                                                                                                                                               Query Match

89.3%; Score 13.4; DB 4;
Best Local Similarity 93.3%; Pred. No. 2.9e+02;
Matches 14; Conservative 0; Mismatches 1;
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89.3%; Score 13.4; DB 4;
Best Local Similarity 93.3%; Pred. No. 3.2e+02;
Matches 14; Conservative 0; Mismatches 1;
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Pred. No. 3.2e+02;
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549 GCATGAAGTTGAGCT 535
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                                                                                        ORGANISM: Myxococcus xanthus US-09-902-540-3305
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NUMBER OF SEQ ID NOS: 16825
SEQ ID NO 3305
LENGTH: 246
TYPE: DNA
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Matches 14; Conservative
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US-09-489-039A-90/c
; Sequence 90, Application US/09489039A
; Patent No. 6610836
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: DNA
CRCANISM: Klebsiella pneumoniae
US-09-489-039A-90
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US-09-949-016-152927
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                                                                                                                                                                                                                                                                                                                                                                          TYPE: DNA
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i Sequence 94775, Application US/09949016

i Sequence 94775, Application US/09949016

j Patent No. 6812339

i GENERAL INFORMATION:

i APPLICANT: VENTER, J. Craig et al.

i TITLE OF INVENTION: POLYMORPHISMS IN KNOWN GENES ASSOCIATED

i TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF

i TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF

i CURRENT APPLICATION NUMBER: 06/241,755

PRIOR PILING DATE: 2000-04-14

PRIOR PILING DATE: 2000-10-20

i PRIOR APPLICATION NUMBER: 60/231,768

PRIOR PILING DATE: 2000-10-03

i PRIOR APPLICATION NUMBER: 60/231,498

i PRIOR APPLICATION NUMBER: 60/231,498

i RIOR PILING DATE: 2000-09-08

i NUMBER OF SEQ ID NOS: 207012

i SOFTHARE: PSESEED for Windows Version 4.0

i ENGTH: 601
                                  Sequence 78509, Application US/09949016

Fatent No. 681239

GENERAL INFORMATION:
FAPLICANT: VENTER, J. Craig et al.
FILE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF

TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF

FILE REFERENCE: CL001307

CURRENT APPLICATION NUMBER: 00/241,755

FRIOR APPLICATION NUMBER: 60/241,755

PRIOR APPLICATION NUMBER: 60/231,768

FRIOR PILING DATE: 2000-10-03

FRIOR FILING DATE: 2000-10-03

FRIOR FILING DATE: 2000-09-08

NUMBER OF SEQ ID NOS: 207012

SOFTWARE: FEASTSEQ for Windows Version 4.0

SEQ ID NO 78509
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93.3%; Pred. No. 3...
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; Sequence 152927, Application US/09949016
; Patent No. 6812339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              239 GCATGAAGTTGAGCT 225
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Best Local Similarity 93.33
Matches 14; Conservative
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Matches 14; Conservative
RESULT 17
US-09-949-016-78509/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ; TYPE: DNA
; ORGANISM: Human
US-09-949-016-78509
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ) ORGANISM: Human
US-09-949-016-94275
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TITLE OF INVENTION: POLYMORPHISMS IN KNOWN GENES ASSOCIATED
TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF;
TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF;
FILE REFERENCE: CLOOJ307
CURRENT FILING DATE: 2000-04-14
FRIOR APPLICATION NUMBER: 60/241,755
PRIOR PLING DATE: 2000-10-20
PRIOR PLING DATE: 2000-10-03
PRIOR PLING DATE: 2000-10-03
PRIOR PLING DATE: 2000-10-03
PRIOR PLING DATE: 2000-09-08
NUMBER OF SEQ ID NOS: 207012
SOFTWARE: FRAESEQ for Windows Version 4.0
IENGTH: 601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GENERAL INFORMATION:
APPLICANT: Gary Breton et. al
APPLICANT: Gary Breton et. al
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO KLEBSIELLA
TITLE OF INVENTION: NEUMONIAE FOR DIAGNOSTICS AND THERAPEUTICS
TITLE OF INVENTION: NEUMONIAE FOR DIAGNOSTICS AND THERAPEUTICS
FILE REFERENCE: 2709.2004001
CURRENT FILING DATE: 2000-01-27
FRICH APPLICATION NUMBER: US 60/117,747
FRICH FILING DATE: 1999-01-29
NUMBER OF SEQ ID NOS: 14342
SEQ ID NO 90
LENGTH: 999
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APPLICANT: Blumenfeld, Marta
APPLICANT: Bougueleret, Lydie
APPLICANT: Chumakov, Ilya
APPLICANT: Cohen, Annick
TITLE OF INVENTION: BIALLELIC MARKERS DERIVED FROM GENOMIC REGIONS CARRYING
FILE REFERENCE: GENSET 051CP1
CURRENT APPLICATION NUMBER: US/09/641,638
CURRENT FILING DATE: 2000-08-16
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89.3%; Score 13.4; DB 4; Length 601;
Best Local Similarity 93.3%; Pred. No. 3.38+02;
Matches 14; Conservative 0; Mismatches 1; Indels 0
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89.3%; Score 13.4; DB 4; Length 999;
Best Local Similarity 93.3%; Pred. No. 3.5e+02;
Matches 14; Conservative 0; Mismatches 1; Indels C
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RESULT 23
US-09-902-540-8773/C

Sequence 8773, Application US/09902540

Patent No. 68334701

GENERAL INFORMATION:

APPLICANT: Goldman, Barry S.

APPLICANT: History Steven C.

APPLICANT: Wiegand, Roger C.

TITLE OF INVENTION: Wycococcus xanthus Genome Sequences and Uses Thereof

FILE REFERENCE: 38-10(15849)

CURRENT APPLICATION NUMBER: US/09/902,540

CURRENT PILING DATE: 2001-07-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NAME/KEY: primer bind
LOCATION: 849..859
OTHER INFORMATION: downstream amplification primer, complement
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             89.3%; Score 13.4; DB 4; Length 1001; 93.3%; Pred. No. 3.5e+02; tive 0; Mismatches 1; Indels 0
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NAME/KEY: misc_binding
LOCATION: 502..521
OTHER INFORMATION: 12-815-94.mis2, potential complement
FEATURE:
                                                                                                                                                                                                                                                                                                      OTHER INFORMATION: 12-815-94 : polymorphic base A or G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match

89.3%; Score 13.4; DB 4;
Best Local Similarity 93.3%; Pred. No. 3.6e+02;
Matches 14; Conservative 0; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NAME/KEY: primer bind
LOCATION: 408..428
OTHER INFORMATION: upstream amplification primer
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FEATURE:
NAMES/KEY: misc_binding
LOCATION: 489..513
OTHER INFORMATION: 12-815-94 potential probe
                                                                                                                                                                                                                                                                                                                                                                                           NAME/KEY: misc_binding
LOCATION: 481._500
OTHER INFORMATION: 12-815-94.mis1, potential
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRIOR APPLICATION NUMBER: 60/217,883
PRIOR FILING DATE: 2000-07-10
NUMBER OF SEQ ID NOS: 16825
SEQ ID NO 8773
LENGTH: 1290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NAME/KEY: misc feature
LOCATION: 501,790..791,798,845,848
CTHER INFORMATION: n=a, g, c or t
US-10-170-097-261
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Best Local Similarity 93.33
Matches 14; Conservative
                                                                                                                         ORGANISM: Homo Sapiens
                                                                                                                                                                                                             NAME/KEY: allele
LOCATION: 501
SEQ ID NO 261
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## Sequence 26.1, Application US/10170097

## Patent No. 6794143

## Patent No. 6794143

## PAPLICANT: Blumenfeald, Marta

## APPLICANT: Blumenfeald, Marta

## APPLICANT: Chumakov, Ilya

## APPLICANT: Unwaber: US 09/641,638

## PRIOR PILING DATE: 2000-02-11

## PRIOR PILING DATE: 1999-06-07

## PRIOR PILING DATE: 1990-06-07

## PRIOR PILING DATE: 1990-06-07
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LOCATION: 501
LOCATION: 504
LOCATION: 504
LOCATION: 505
LOCATION: 481.7500
LOCATION: 481.7500
LOCATION: 481.7500
LOCATION: 502.751
LOCATION: 502.751
LOCATION: 502.752
LOCATION: 502.752
LOCATION: 502.752
LOCATION: 408.750
LOCATIO
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89.3%; Score 13.4; DB 3; Length 1001;
Best Local Similarity 93.3%; Pred. No. 3.5e+02;
Matches 14; Conservative 0; Mismatches 1; Indels 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NAME/KEY: misc_binding
LOCATION: 489..513
OTHER INFORMATION: 12-815-94 potential probe
NAME/KEY: misc_feature
LOCATION: 501.790..791,798,845,848
OTHER INFORMATION: n=a, g, c or t
PRIOR APPLICATION NUMBER: US 09/502,330
PRIOR FILING DATE: 2000-02-11
PRIOR APPLICATION NUMBER: US 60/133,200
PRIOR PILING DATE: 1999-05-07
PRIOR PILING DATE: 1999-03-23
PRIOR PILING DATE: 1999-03-12
PRIOR PILING DATE: 1999-03-12
PRIOR PILING DATE: 1999-03-12
PRIOR PILING DATE: 1999-02-12
NUMBER OF SEQ ID NOS: 1304
SSOFTWARE: PRIOR PALENT.PM
SSOFTWARE: PRIOR PALENT.PM
SSOFT 100 NO 261
LENGTH: 1001
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US-10-170-097-261/c
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: DNA
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Sequence 2726, Application US/09949016

Sequence 2726, Application US/09949016

Sequence 2726, Application US/09949016

GENERAL INFORMATION:
APPLICANT: VENTER, J. Craig et al.
TITLE OF INVENTION: POLYMORPHISMS IN KNOWN GENES ASSOCIATED
TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF;
FILE REPRENCE: CLOO1307
CURRENT APPLICATION NUMBER: US/09/949,016
FRIOR PELING DATE: 2000-04-14
PRIOR PELING DATE: 2000-10-20
PRIOR FILING DATE: 2000-10-20
PRIOR PELING DATE: 2000-10-03
PRIOR PELING DATE: 2000-10-03
PRIOR PELING DATE: 2000-09-08
NUMBER OF SEQ ID NOS: 207012
SOFTHARE: PRAESEQ for Windows Version 4.0
SEQ ID NO 2726
LENGTH: 2365
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            89.3%; Score 13.4; DB 4; Length 2365; 93.3%; Pred. No. 4e+02; cive 0; Mismatches 1; Indels 0;
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                                                                                                                                                                ORGANISM: Pseudomonas denitrificans
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; Patent No. 6569662
; GENERAL INFORMATION:
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LENGTH: 1896 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match 89.3
Best Local Similarity 93.3
Matches 14; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match 89.3
Best Local Similarity 93.3
Matches 14; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                             LOCATION: 2616-4511 b

IDENTIFICATION METHOD:

CTHER INFORMATION:

US-08-426-630-33
              TYPE: Nucleic acid
STRANDEDNESS: Double
TOPOLOGY: Unknown
                                                                                                                                                                                  STRAIN:
INDIVIDUAL ISOLATE:
INDIVIDUAL ISOLATE:
DEVELOPMENTAL STAGE:
HAPLOTYPE:
TISSUE TYPE:
CELL TYPE:
CELL LINE:
ORGANELLE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: Tang, Y. Tom
APPLICANT: Liu, Chenghua
                                                                                      MOLECULE TYPE: CDNA
HYPOTHETICAL: NO
ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ; ORGANISM: Human
US-09-949-016-2726
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                                                                                                                                                                                                                                                                                                                                                                                   FEATURE:
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                                                                                                          GENERAL INCORNATION:
APPLICANT: GARY BRETON
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO PROTEUS MIRABIL
TITLE OF INVENTION: NUCLEIC ACID AND THERAPEUTICS
TITLE OF INVENTION: US/08/08/1002-001
FILE REFERENCE: 2709 1002-001
CURRENT APPLICATION NUMBER: US/09/543,681A
CURRENT FILING DATE: 2000-04-05
PRIOR APPLICATION NUMBER: US 60/128,706
PRIOR FILING DATE: 1999-04-09
NUMBER OF SEQ ID NOS: 8344
SEQ ID NO 1840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GENERAL INFORMATION:

APPLICANT: BLANCHE, FRANCIS; CAMERON, BEATRICE; CROUZET,

APPLICANT: JOEL-DEBUSSCHE, LAURENT; LEVCY SCHIL, SOPHIE;

APPLICANT: THEAUT, DENIS

TITLE OF INVENTION: DOLYPEPTIDES INVOLVED IN THE

TITLE OF INVENTION: CODING FOR THESE POLYPEPTIDES, PREPARATION METHOD AND THEIR

TITLE OF INVENTION: USE.

NUMBER OF SEQUENCES: 60

CORRESPONDENCE ADDRESS:
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89.3%; Score 13.4; DB 4; Length: 1842;
Best Local Similarity 93.3%; Pred. No. 3.88+02;
Matches 14; Conservative 0; Mismatches 1; Indels 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FILING DATE:
CLASSIFICATION: 435
PRIOR APPLICATION 1435
PRIOR APPLICATION NUMBER: 07/916,151
FILING DATE: 14-SEP-1992
APPLICATION NUMBER: PCT/FR91/00054
FILING DATE: 30-JAN-1991
ATTORNEY AGENT INFORMATION:
NAME: F. CALVETTI
REGISTRATION NUMBER: 1290-7213
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELEPHONE: (202) 857-7887
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STREET: 555 13TH STREET, N.W.
CITY: WASHINGTON
STATE: DISTRICT OF COLUMBIA
COUNTRY: USA
ZIP: 20004
COMPUTER READABLE FORM:
MEDIUM TYPE: FLOPPY DISK
COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WORDPERFECT 5.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/426,630
                                            US-09-543-681A-1840/c
; Sequence 1840, Application US/09543681A
; Patent No. 6605709
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 33, Application US/08426630 Patent No. 6656709
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INFORMATION FOR SEQ ID NO: 33:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                662 GCTTGACGTTGAGCT 648
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 GCATGACGTTGAGCT 15
                                                                                                                                                                                                                                                                                                                                                                                                         TYPE: DNA
CRGANISM: Proteus mirabilis
US-09-543-681A-1840
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US-08-426-630-33/c
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Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 3, Application US/08916917
; Sequence 3, Application US/08916917
; Patent No. 5856132
; GENERAL INFORMATION:
APPLICANT: Stephens, Len
APPLICANT: Braselmann, Sylvia
TITLE OF INVENTION: G-BETA-GAMMA REGULATED
TITLE OF INVENTION: PHOSPHATIDYLINOSITOL-3' KINASE
NUMBER OF SEQUENCES: 14
CORRESPONDENCE ADDRESS:
ADDRESSEE: Pennie & Edmonds, LLP
STREET: 1155 Avenue of the Americas
CITY: New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER: NA
COMPUTER: NA
COMPUTER: BLABABLE FORM:
MEDLIUM TYPE: Diskette
COMPUTER: ENA COMPACTION
COMPUTER: IBM COMPACTION
COMPUTER: IBM COMPACTION
COMPUTER: IBM COMPACTION
COMPACTION
COMPUTER: IBM COMPACTION
APPLICATION
COMPACTION
COMPACTIO
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Mismatches
CURRENT APPLICATION NUMBER: US/09/620,312D
                      CURRENT FILING DATE: 2000-07-19
PRIOR APPLICATION NUMBER: 09/552,317
PRIOR FILING DATE: 2000-04-25
PRIOR PELING DATE: 2000-04-25
PRIOR APPLICATION NUMBER: 09/488,725
NUMBER OF SEQ ID NOS: 1105
SEQ ID NO 675
LENGTH: 3039
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NAME/KEY: misc feature
LOCATION: (1)...(3039)
OTHER INFORMATION: n = a,t,c or g
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TELEFAX: 66141 PENNIE
INFORMATION FOR SEQ ID NO: 3
SEQUENTICS CHARACTERISTICS:
LENGTH: 3808 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity 93.37
Matches 14, Conservative
                                                                                                                                                                                                                                                                                                                 TYPE: DNA ORGANISM: Homo sapiens PEATURE: NAME/KEY: CDS LOCATION: (169)..(2502) PEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: nucleic acid
STRANDEDNESS: sing
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APPLICANT: Wang, Dunrui
APPLICANT: Wang, Dunrui
APPLICANT: Wang, Dunrui
APPLICANT: Wang, Dunrui
APPLICANT: Wang, Zilwai
APPLICANT: Drmanac, Radoje T.
TITLE OF INVENTION: NO. 6569662el Nucleic Acids and
TITLE OF INVENTION: NO. 6569662el Nucleic Acids and
TITLE OF INVENTION: Polypeptides
FILE REFERENCE: 784CIP2B yeptides
FILE REFERENCE: 784CIP2B yeptides
FILE REFERENCE: 784CIP2B yeptides
FILING DATE: 2000-07-19
FRIOR FILING DATE: 2000-04-25
FRIOR FILING DATE: 2000-04-25
FRIOR FILING DATE: 2000-01-21
NUMBER OF SEQ ID NOS: 1105
SOFTWARE: PL_Genes Version 1.0
SEQ ID NO 676
LENGTH: 2955
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PPLICANT: Wang, Zhiwei
PPLICANT: John Tillinghast
PPLICANT: Drmanac, Radoje T.
PTLE OF INVENTION: No. 6569662el Nucleic Acids and
ITLE OF INVENTION: Polypeptides
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match

89.3%; Score 13.4; DB 4;
Best Local Similarity 93.3%; Pred. No. 4.1e+02;
Matches 14; Conservative 0; Mismatches 1;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | NAME/KEY: misc_feature
| LOCATION: (1)...(2955)
| OTHER INFORMATION: n = a,t,c or g
| US-09-620-312D-676
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 GCATGACGTTGAGCT 15
                                                                        Ren, Feiyan
Chen, Kui-hong
Zhao, Qing A.
Wehrman, Tom
Xue, Aidong J.
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Chen, Rui-hong
Zhao, Qing A.
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Wang, Jian-Rui
Zhou, Ping
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Wang, Jian-Ru
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APPLICANT: Liu, Chenghua
APPLICANT: Asundi, Vinod
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ma, Yunqing
Wang, Dunrui
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NAME/KEY: CDS
LOCATION: (169)..(2418)
FEATURE:
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Xue, Aidong
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORGANISM: Homo sapiens
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0
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0
                                                                                                        Query Match

89.3%; Score 13.4; DB 2; Length 3808;
Best Local Similarity 93.3%; Pred. No. 4.2e+02;
Matches 14; Conservative 0; Mismatches 1; Indels 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match 89.3%; Score 13.4; DB 2; Length 3808; Best Local Similarity 93.3%; Pred. No. 4.2e+02; Matches 14; Conservative 0; Mismatches 1; Indels 0;
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Patent No. 5856133
GENERAL INFORMATION: Capture Ca
                                                                                                                                                                                                                                                                                                                    592 GCATGACGATGAGCT 606
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; TOPOLOGY: linear
US-08-916-917-3
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Search completed: September 3, 2005, 09:51:59
Job time : 95.2857 secs

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GenCore version 5.1.6 search, using sw model search, using sw model mber 3, 2005, 01:39:41; Search time 286.714 Seconds (without alignments) 309.702 Million cell updates/sec 10.0, Gapext 1.0 10.0, Gapext 1.0 110.0, Gapext 1.0 110.0 110.0, Gapext 1.0 110.0 11	AAV52553 AAV52553 AAV52553 AAV27673 AAV27673 AAV27673 AAV27673 AAV27673 AAV27673 AAV27673 AAV27673 AAV27673 AAZ41867 AAZ41867 AAZ41867 AAZ41867 AAZ41867 AAZ41867 AAZ41867 AAZ41867 AAZ41867 AAZ47628 AAZ
Copyright (c) 1993 . OM nucleic - nucleic search, using sw Run on: September 3, 2005, 0: Fitle: US-10-789-536-6 Perfect score: 15 Scoring table: 1DENTITY_NUC Gapop 10.0, Gapext 1 Searched: 4390206 seqs, 2959870 Total number of hits satisfying choses Minimum DB seq length: 0 Maximum DB seq length: 0 Maximum Match 100% Listing first 90 sum Database: NGeneseq11980s:* 2: geneseq12001as:* 3: geneseq1201as:* 5: geneseq1201as:* 6: geneseq1201as:* 7: geneseq1201as:* 8: geneseq1201as:* 8: geneseq1201as:* 9: geneseq1201as:* 11: geneseq1201as:* 12: geneseq1201as:* 13: geneseq1201as:* 14: geneseq1201as:* 15: geneseq1201as:* 16: geneseq1201as:* 17: geneseq1201as:* 18: geneseq1201as:* 18: geneseq1201as:* 19: geneseq1201as:* 11: geneseq1201as:* 12: geneseq1201as:* 13: geneseq1201as:* 14: geneseq1201as:* 15: geneseq1201as:* 16: geneseq1201as:* 17: geneseq1201as:* 18: geneseq1201as:* 18: geneseq1201as:* 19: geneseq1201as:* 11: geneseq1201as:* 12: geneseq1201as:* 13: geneseq1201as:* 14: geneseq1201as:* 15: geneseq1201as:* 16: geneseq1201as:* 17: geneseq1201as:* 18: geneseq1201as:*	15 100.0 15 100.0 16 15 100.0 17 100.0 18 100.0 18 100.0 19 100.0 10 10 10 10 10 10 10 10 10 10 10 10 10 1

Synthetic.

AAV52553;

RESULT 1 AAV5255

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AAY27641-751 represent immunostimulatory oligodeoxyribonucleotides (ODNs) of the invention. The ODNs contain at least one unmethylated CpG dinucleotide, and have the formula: 5' NIXICGSAN2 3', where at least one uncleotide separates consecutive CpGs, XI is adenine, guanthe, or thymine, X2 is cytosine or thymine, N is any nucleotide and NI+N2 is 0-26 bases with the provision that NI and N2 does not contain a CCGG tetramer or more than one CCG or CGG trimer OR 5' NIXIZCGX3X4N 3', where at least one nucleotide separates consecutive CpGs, XI and X2 are selected from CGC or CGG tetramer or more than one CCG or CGG tetramer or more than one CCG or CGG tetramer or more than one CCG or CGG trimer. The ODNs acrivate lymphocytes in a subject and redirect a subject's immune response from a Th2 to a Th1 (e.g. by inducing monocytic cells and other CCC or produce Th1 cytokines, including IL-12, IFN-gamma and GM-CSF).

The ODNs can be used to treat or prevent an asthmatic disorder, adjuvant during antibody generation in a mammal such as a mouse or a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           New immunostimulatory nucleic acid molecules - which contain at least one unmethylated CpG dinucleotide, used for treating e.g. tumours, infections or autoimmune disease.
                                                                                                                    Immunostimulatory, oligodeoxyribonucleotide; ODN;
unmethylated CpG dinucleotide; activate; lymphocyte; immune response;
Th2; Th1; cytokine; treatment; prevention; asthma; autoimmune disease;
desensitisation therapy; artificial adjuvant; antibody generation; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Immunostimulatory phosphorothioate CpG oligodeoxyribonucleotide.
                                                                   Immunostimulatory oligodeoxyribonucleotide of the invention
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Disclosure; Page 49; 109pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                 97WO-US019791.
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                       01-OCT-1998 (first entry)
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Local Si...
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                                                                                                                                                                                                                                                Synthetic.
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셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              This sequence represents an unmethylated CpG dinucleotide, and can be used in the method of the invention. The method is for treating a subject having, or a risk of having an acute decrement in air flow, comprising administering a nucleic acid sequence containing at least one dinistering a nucleic acid sequence containing at least one containing at least one unmethylated CpG. The nucleic acids containing an unmethylated CpG. The nucleic acids containing an unmethylated CpG containing an unmethylated CpG. The nucleic acids containing an unmethylated CpG. The nucleic acids containing an unmethylated CpG. The nucleic acids containing an unmethylated CpG. Contained a subject's immune response from a Th2 to a Th1 response by inducing monocytic and other cells to produce Th1 contained by inducing monocytic and other cells to produce Th1 contained as sethma or environmentally induced airway disease. They can also be used to treat diseases associated with Grampositive bacterial infections or endotoxaemia including bacterial containing its, neonatal sepsis, cystic fibrosis, inflammatory bowel disease and liver cirrhosis, Gram-negative pneumonia, Gram-negative abdominal abscess, haemorrhagic shock, disseminated intravascular coagulation, or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                            Unmethylated CpG dinucleotide; immune response; bacterial meningitis; natural killer cell activation; NK cell; Th2 response; neonatal sepsis; pulmonary disorder; asthma; environmentally induced airway disease; bacterial infection; andocoxaemia; therapy; cystic fibrosis; inflammatory bowel disease; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Use of nucleic acids containing an unmethylated CpG - for treating a subject having or at risk of having an acute decrement in air flow or inhibiting an inflammatory response.
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                                                                                                                                                                                                                                                Unmethylated CpG dinucleotide 1823.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Example 4; Page 35; 65pp; English.
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                                                                                                  AAV52553 standard; DNA; 15 BP
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ses 15; Conservative
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Gaps

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Query Match

Matches

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RESULT 2

AAV27727

Immunostimulatory; oligodeoxyribonucleotide; ODN;

Synthetic

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AAV27641-751 represent immunostimulatory oligodecxyribonucleotides (ODNs) C the invention. The ODNs contain at least one unmethylated CpG dinucleotide, and have the formula: 5' MIXIGGARN2'3', where at least one uncleotide separates consecutive CpGs, XI is adenine, guanine, or thymine, X2 is cytosine or thymine, N is any nucleotide and N1+N2 is 0-26 thymine, X2 is cytosine or thymine, N is any nucleotide and N1+N2 is 0-26 cc more than one CGG or CGC trimer OR 5' MIXICGGARAN 3', where at least con mucleotide separates consecutive CpGs, XI and X2 are selected from CpT, GpG, GpA, ApT and ApA, X3and X4 are selected from TpT or CpT, N is any nucleotide and N1+N2 is 0-26 bases with the provision that N1 and N2 consent or contain a CCGG tetramer or more than one CCG or CGG trimer. The Cobs not contain a CCGG tetramer or more than one CCG or CGG trimer. The cobs activate lymphocytes in a subject and redirect a subject's immune CCC response from a Th2 to a Th1 (e.g. by inducing monocytic cells and other CCC cells to produce Th1 cytokines, including In-12, IFN-gamma and GM-CSF). The ODNs can be used to treat or prevent an asthmatic diseases, in desensitisation therapy, as an artificial
                                                                                                                                                                                                                                                                                                                                             New immunostimulatory nucleic acid molecules - which contain at least one unmethylated CpG dinucleotide, used for treating e.g. tumours, infections
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          100.0%; Score 15; DB 2; Length 15; 100.0%; Pred. No. 1.4e+02;
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                                                                                                                                                                                                                                                                                                                                                                                                          or autoimmune disease
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Best Local Similarity
                                                                                                                                                 30-OCT-1996;
WO9818810-A1
                                                                                               30-OCT-1997;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ANY27641-751 represent immunostimulatory oligodecxyribonucleotides (ODNs) of the invention. The ODNs contain at least one unmethylated CpG dinucleotide, and have the formula: 5' NIXXCGX2N2 3', where at least one uncleotide separates consecutive CpGs, X1 is adenine, guanine, or thymine, X2 is cytoaine or thymine, N is any nucleotide and N1+N2 is 0-26 thymine, X2 is cytoaine or thymine, N is any nucleotide and N1+N2 is 0-26 to more than one CGG or CGG trimer OR 5' NIXX2CGX3X4N 3', where at least cone nucleotide separates consecutive CpGs, X1 and X2 are selected from CpT, GpG, GpA, ApT and ApA, X3and X4 are selected from TpT or CpT, N is any nucleotide and N1+N2 is 0-26 bases with the provision that N1 and N2 does not contain a CCGG tetramer or more than one CCG or CGG trimer. The Cobs activate lymphocytes in a subject and redirect a subject's immune cobs activate lymphocytes in a subject and redirect a subject's immune cobs activate lymphocytes in a subject and redirect a subject's immune colls to produce Th1 Cytokinas, including In-12, IFV-9amma and GM-CSF). The ODNs can be used to treat or prevent an asthmatic disorder, a uncimmune diseases, in desensitisation therapy, as an artificial
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     unmethylated CpG dinucleotide; activate; lymphocyte; immune response; Th2; Th1; cytokine; treatment; prevention; asthma; autoimmune disease; desensitisation therapy; artificial adjuvant; antibody generation; ss.
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  dinucleotide; activate; lymphocyte; immune response;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Disclosure; Page 11; 109pp; English
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Query Match

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WPI; 1999-620169/53.
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                                                                                                                                                            AAV27641-751 represent immunostimulatory oligodeoxyribonucleotides (ODNs) of the invention. The ODNs contain at least one unmethylated CpG dinucleotide, and have the formula: $\tilde{S}$ NIXICGXN2 3.4, where at least one nucleotide separates consecutive CpGs, X1 is adenine, guanine, or thymine, X2 is cytosine or thymine, N is any nucleotide and N1+N2 is 0-26 bases with the provision that N1 and N2 does not contain a CCGG tetramer or more than one CCG or CGG trimer OR 5' NIXIZCGX3X4N 3', where at least one nucleotide separates consecutive CpGs, X1 and X2 are selected from CpT or one nucleotide and N1+N2 is 0-26 bases with the provision that N1 and N2 does not contain a CCGG tetramer or more than one CCG or CGG trimer. The ODNs activate lymphocytes in a subject and redirect a subject's immune response from a Th2 to a Th1 (e.g. by inducing moncoytic cells and other cells to produce Th1 cytokines, including IL-12, IFN-gamma and GM-CSF). The ODNs can be used to treat or prevent an asthmatic disorder, autoimmune diseases, in desenstication in a mammal such as a mouse or a
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                                                                                           New immunostimulatory nucleic acid molecules - which contain at least one unmethylated CpG dinucleotide, used for treating e.g. tumours, infections or autoimmune disease.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CpG oligonucleotide; phosphorothioate; interleukin-12; IL-12; secretion; human PBMC; immune response; cancer; HIV; bacterial disease; asthma; neoplastic disorder; jaagsiskte; B cell; NK cell; ss; cytokine; antigen presenting cell; infection; allergic disease.
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100.0%; Pred. No. 1.4e+02;
iive 0; Mismatches 0;
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                                                                                                                                          Disclosure; Page 36; 109pp; English.
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30-OCT-1996; 96US-00738652.
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Matches 15; Conservative
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                                              Kline JN;
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                                              Krieg AM,
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Sequences AA241856-Z41949 are phosphorothioate CDG oligonucleotides which are used in the invention comprises stimulating an immune response in a subject comprising administering to a subject exposed to an antigen, an immunopotentiating administering to a subject exposed to an antigen, an immunopotentiating cytokine and an immunostimulatory CpG oligonucleotide to immunopotentiating cytokine and an immunostimulatory CpG oligonucleotide consequed as a consequence a synegistic antigen specific immune response. The methods are useful for treating cancer by stimulating an antigen specific immune consequence against a cancer antigen. The methods can also be used to treat concrinoma, fibroma, inhumanes, including but not limited to: sarcoma, carcinoma, fibroma, inhumanes, including but not limited to: sarcoma, carcinoma, fibroma, inhumbona, melanoma, neuroblastoma, retinoblastoma, and glioma. The methods are also useful for treating infectious diseases. CT methods may also be used to treat allergic diseases, e.g. asthma. The methods and compositions may also be applied to treat cancer and tumours contagious diseases. As and subjects, e.g. cats and dogs. Neoplasias affecting agricultural livestock may also be treated and include leuksemia, haemangiopericytoma and bovine ocular neoplasia. Chronic, infectious, contagious diseases of sheep and goats caused by the bacterium of sheep caused by jaagsiekte may also be treated. CpG oligonucleotides can be useful in activating B cells, NR cells, and contagious lung tumour of such as monocytes and macrophages. CpG oligonucleotides can be useful in activating B cells, NR cells, and antigen presenting cellular cytotoxicity and can be useful as antibody.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
Novel synergistic combinations of immunostimulatory oligonucleotides and immunopotentiating cytokines are useful for stimulating the immune
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         conjunction with tumour antigens to protect against a tumour challenge
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches
                                                                                                                                                                                    Example 8; Page 68; 91pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ;
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Best Local Similarity 100.
Matches 15; Conservative
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RESULT 9
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequences AAZ41856-Z41949 are phosphorothicate CpG oligonucleotides which are used in the invention comprises stimulating an immune response in a subject comprising administering to a subject exposed to an antigen, an immunopotentiating oytokine and an immunostimulatory CpG oligonucleotide in manusopotentiating oytokine and an immunostimulatory CpG oligonucleotide to induce a synergistic antigen specific immune response. The methods are useful for treating cancer by stimulating an antigen specific immune response against a cancer antigen. The methods can also be used to treat neoplastic disorders in humans, including but not limited to: sarcoma, carcinoma, ifbroma, improma, impland, melanom, neuroblastoma, carcinoma, ifbroma, improma, impland, melanom, neuroblastoma, carcinoma, ifbroma, improma, impland, melanoma, including but not limited to: sarcoma, carcinoma, ifbroma, improma, also be useful for treating infectious diseases.

CC The methods and sompositions may also be applied to treat cancer and tumours contends and compositions may also be treated and include leukaemia, hamman subjects, e.g. cats and dogs. Neoplasias affecting agricultural livestock may also be treated and include leukaemia, contagious diseases of sheep and goats caused by the bacterium contagious functions of sheep caused by jagasikte may also be treated. CpC oligonucleotides can be cuseful in activating B cells, NK cells, and antigen presenting cells, custing and macrophages. CpG oligonucleotides enhance antibody and compositive and macrophages. CpG oligonucleotides enhance antibody contagious dispases and macrophages. CpG oligonucleotides enhance antibody antivers antibody and antigen and antigen and antigen presenting contagious dispases.
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                             Novel synergistic combinations of immunostimulatory oligonucleotides and immunopotentiating cytokines are useful for stimulating the immune
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                   conjunction with tumour antigens to protect against a tumour challenge
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Nucleotide sequence of an immunostimulatory CpG oligonucleotide.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            100.0%; Score 15; DB 2; Length 15; 100.0%; Pred. No. 1.4e+02;
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(CPGI-) CPG IMMUNOPHARMACEUTICALS INC.
                                                                                        Example 8; Page 76; 91pp; English
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Best Local Similarity 100.0
....hes 15; Conservative
    WPI; 1999-620169/53
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AAZ60933-Z61015 represent immunostimulatory stereoisomers of CpG oligonucleotides. The sequences are derived from generic nucleic acid sequence, from which immunoinhibitory sequences may also be derived. The immunostimulatory nucleic acids can be co-administered with an antigen to induce an antigen-specific immune response. The immunostimulatory nucleic acids can also be used in methods for redirecting a subject we immune response to response from a Th2 to a Th1, for treating asthma, for desensitising a subject against the occurrence of an allergic reaction in response to contact with an allergen, for activating an immune cell, especially a lymphocyte or a dendritic cell expressing a cancer antigen of for treating cancer. The immunoinhibitory nucleic acid can be used to prevent an immune response, especially where the immune response in the subject is excessive due to having received an immune response in the subject is excessive due to having received an immune response. Proving or at immunoinhibitory nucleic acid can be used to treat a subject having or at immune inhibitory nucleic acid can be used to treat a subject having or at
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             inflammatory bowel disease,
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specific immune response.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                               Immunostimulatory and immunoinhibitory stereoisomers of CpG oligonucleotides useful for immunotherapy of cancer.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 risk of an inflammatory disease, especially inflammat
autoimmune disease, gingivitis, psoriasis and sepsis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 15 BP; 3 A; 3 C; 5 G; 4 T; 0 U; 0 Other;
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(CPGI-) CPG IMMUNOPHARMACEUTICALS INC.
                                                                                                                                                                                   Disclosure, Page 10, 88pp; English
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Matches 15; Conservative
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WPI; 2000-195254/17.
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02-FEB-1999;
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The present invention describes a method using CpG containing
cligonucleotides (ONs) for regulating immune system remodeling and for
cligonucleotides (ONs) for regulating immune system remodeling and for
cegulating haematopolesis. The method for inducing an antigen-specific
immune response comprises: (1) administering an ON having a sequence
including at least 3 days after the ON is administered to the subject to a
antigen at least 3 days after the ON is administered to the subject to
confource an antigen-specific immune response: 5 XICGX2 3' (1), where the
CX = nucleotides at least 8 nucleotides; C and G = unmethylated, and X1 and
X2 = nucleotides. The method can be used for inducing an immune response
against an antigen such as cells, cell extracts, proteins,
polysaccharides, polysaccharide conjugates, lipids, glycolipids,
carbohydrate, viral extracts, viruses, bacteria, fungi, parasites and
allergic reaction. It can be used in a subject at risk of developing cancer or an
allergic reaction. It can also be used for treating an infectious
disease, allergic diseases and asthma, as well as thrombocytopaenic
ctrombocytopenic purpura, or resulting from accidental or therapeutic
ctrombocytopenic purpura, or resulting from accidental or therapeutic
ctrombocytopenic purpura, or resulting from accidental or therapeutic disorders such as
chacked anaemia, immunohaemolyvic disorder, genetic disorders production
despite adequate iron stores, chronic disease such as kidney failure, and
chronic inflammatory disorder such as rheumatoid arthritis, or anaemia
chacked anaemia phosphorothioate CGG oligonucleotides used in the
capacitic accidental or therapeutic radiation exposure. AAX47932 to
capacitic adequate iron of the present invention
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Immune remodeling inducing CpG oligonucleotide SEQ ID NO:41.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 15;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   100.0%; Score 15; DB 3; I
100.0%; Pred. No. 1.4e+02;
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                   Example 1; Page 65; 116pp; English
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Lipford G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best Local Similarity
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02-FEB-1999;
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The present invention describes a method using CpG containing
cligonucleotides (ONs) for regulating immune system remodeling and for
cregulating haematopolesis. The method for inducing an antigen-specific
immune response comprises: (1) administering an ON having a sequence
including at least the formula (1); and (2) exposing the subject to an
antigen at least the formula (1); and (2) exposing the subject to an
antigen at least a days after the ON is administered to the subject to an
produce an antigen-specific immune response: 5' XICGX2 3' (1), where the
CC or including at least B nucleotides; C and G = unmethylated, and X1 and
CX = nucleotides. The method can be used for inducing an immune response
against an antigen such as cells, cell extracts, proteins,
CC approacharides, polysaccharide conjugates, lipids, glycolipids,
CC arbohydrate, viral extracts, viruses, bacteria, fungi, parasites and
allergic reaction. It can also be used for treating an infectious
allergic reaction. It can also be used for treating an infectious
clisease, allergic diseases and asthma, as well as thrombocytopaenia which
is drugi-induced, due to an autoimmune disorder, spenetic disorders such as
chadiation exposure. It can also be used for treating anaemia such as despite adequate iron stores, chronic disease such as kidney failure, and
chronic inflammatory disorder used in the
control of the present invention
cresulting from accidental or therapeutic radiation exposure. Adx49032 to
changle fication of the present invention
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mucosal immunity; immunostimulatory; CpG motif; immune response; antigen; allargic reaction; cancer; infectious disease; asthma: eczema; allargic rhinitis; coryza; hay fever; conjunctivitis; bronchial asthma; utticaria; food allergy; atopic condition; mucosal delivery; ss.
                                 Use of CpG containing oligonucleotides for, e.g. inducing an antigen-
specific immune response.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 15 BP; 3 A; 3 C; 5 G; 4 T; 0 U; 0 Other;
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                                                                                                      English
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                                                                                                          Example 1; Page 65; 116pp;
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Matches 15; Conservative
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WPI; 2000-062261/05.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          21-MAY-1999;
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This sequence represents a B cell stimulatory oligonuclectide. The invention relates to compositions comprising an oligonuclectide (I) with unmerlylated guantine and cytosine nucleotides and an antigen in a carrier. The oligonuclectides can be administered to a subject in a carrier. The oligonuclectides are immunestimulatory composition with an antigen in a carrier to enhance an immune response by chancing B cell activation. The oligonuclectides are immunestimulatory and can be used to treat, prevent or ameliorate an immune system can deficiency e.g. cancer or a viral, fungal, bacterial or parasitic infection. They can also be administered as a vaccine adjuvant to stimulate the response of a host to a vaccine. The compositions can be used to treat humans or vertebrate animals including dogs, cats, sheep is cows, goats, chickens, mice and monkeys. Perceding chemotherapy, with the immunostimulatory oligonuclectides should be useful for increasing the responsiveness of malignant cells to subsequent
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             The present invention describes a method for treating and preventing parasitic infection by administration of unmethylated CpG oligonucleotides. The CpG oligonucleotides are able to stimulate the innate immune system via the activation of immune cells, such as antigen presenting cells, natural killer cells and granulocytes. The CpG oligonucleotides and the method can be used to treat and prevent parasitic diseases, such as malaria, helminth diseases, tick and mites in humans, animals and poultry. The oligonucleotides may be administered in
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Parasitic infection preventing exemplary oligonucleotide SEQ ID NO:34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Immune system; immunostimulatory; parasitic infection; parasite; CpG oligonucleotide; antigen presenting cell; natural killer cell; granulocyte; malaria; helminth disease; tick; mite; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      100.0%; Score 15; DB 3; Length 15; 100.0%; Pred. No. 1.4e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 15 BP; 3 A; 3 C; 5 G; 4 T; 0 U; 0 Other;
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                                                                                                                                                                                                                                                                                                                                                                                                         facilitates uptake into cells
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(OTTA-) OTTAWA CIVIC LOEB RE
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Best Local Similarity 100.0
Matches 15, Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                          The present invention describes a method using CpG containing oligonucleotides (ONS) as adjuvants for inducing an immune response. The method for inducing a mucosal immune response (MIR) comprises: (1) additionation a mucosal immune response (MIR) comprises: (1) additionation to a mucosal surface of a subject an ON, having a sequence including at least the formula (I); and (2) exposing the subject to an antigen to induce the MIR, where the antigen is not encoded in a nucleic acid vector: S/XIXCGXXX43' (I), where C and G = unmethylated, and X1, X2, X3 and X4 = nucleotides. The method can be used for treating a subject at risk of developing an allergic reaction, cancer or infectious disease. It can be used for treating asthmatic subject s, eczema, allergic rhinitis or coryza, hay fever, conjunctivitis, bronchial asthma, cuticaria, food allergies or other atopic conditions. The antigen may be derived from infectious organisms such as infectious bacteria, viruses, parasites or fungi. It can be used in humans or animals, e.g. bovine, equine, feline, swine, aquatic or avian species. The ONS act as potent successed adjuvants to induce immune responses at both local and remote sites against an antigen administered to the mucosal tissue. Both SAZATROBI to AAZATROBI tephacial examples of immunostimulatory
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                                                                          Use of CG containing oligonucleotides as adjuvants for inducing an immune
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         B cell; stimulant; immune response; B cell activation; cancer; vaccine; immunostimulatory molecule; infection; therapy; ss.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     oligonucleotides given in the present invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0; Mismatches
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                                                                                                                                                       Disclosure; Page 24; 116pp; English.
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Matches 15; Conservative (
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                          WPI; 2000-062585/05
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The present invention describes a method for treating and preventing parasitic infection by administration of unmethylated CpG coligonucleotides. The CpG oligonucleotides are able to stimulate the innate immune system via the activation of immune cells, such as antigen presenting cells, natural killer cells and granulocytes. The CpG coligonucleotides and the method can be used to treat and prevent parasitic diseases, such as malaria, helminth diseases, tick and mites in humans, animals and poultry. The oligonucleotides may be administered in conjunction with parasiticides or other therapeutic compounds after an conjunction with parasiticides or other therapeutic compounds after an conjunction with parasiticides or other therapeutic compounds after an can be treated or prevented include those caused by Plasmodium falciparum, P. ovale, P. malariae, P. vivax, P. knowlesi, Babbesia microsoma mansoni, Toxoplasma gondii, Trichinella spiralis, Leishmania major, L. donovani, L. braziliensis, and L. tropica. The parasite is
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conjunction with parasiticides or other therapeutic compounds after an organism has been diagnosed to be infected with parasites. Diseases which can be treated or prevented include those caused by Plasmodium falciparum, P. ovale, P. malariae, P. vivax, P. knowlesi, Babesia microti, B. divergens, Trypanosoma cruzi, T. gambiense, T. rhodesiense, Schistosoma mansoni, Toxoplasma gondii, Trichinella spiralis, Leishmania major, L. donovani, L. braziliensis, and L. tropica. The parasite is especially capable of causing malaria. The present sequence represents a parasitic infection preventing exemplary oligonucleotide sequence from
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Treating and preventing parasitic infections using CpG oligonucleotides.
                                                                                                                                                                                                                                                                                                                   Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Immune system; immunostimulatory; parasitic infection; parasite;
CpG oligonucleotide; antigen presenting cell; natural killer cell;
granulocyte; malaria; helminth disease; tick; mite; ss.
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                                                                                                                                                                                                                                                                          100.0%; Score 15; DB 3; Length 15; 100.0%; Pred. No. 1.4e+02;
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                                                                                                                                                                                                                                   Sequence 15 BP; 3 A; 3 C; 5 G; 4 T; 0 U; 0 Other;
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                                                                                                                                                                                                                                                                                                                   0; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (IOWA ) UNIV IOWA RES FOUND.
(OTTA-) OTTAWA CIVIC LOEB RES INST.
(USNA ) US SEC OF NAVY.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAZ47606 standard; DNA; 15 BP
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                                                                                                                                                                                                                                                                                                                                                            1 GCATGACGTTGAGCT 15
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                                                                                                                                                                                                                                                                                                                   15; Conservative
                                                                                                                                                                                        the present invention
                                                                                                                                                                                                                                                                                             Best Local Similarity
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The present invention describes methods for inducing interleukin 6 (IL-6), interferon-gamma (IRN-gamma) or IL-12, or for stimulating natural killer cell (killer cell lytic activity. The methods comprise administering to the subject to a subject comprising a natural killer cell to an immunostimulatory nucleic acid. Also described are: (1) inducing IL-6 in a subject comprising administering to the subject to induce IL-6 in the subject to comprising a natural killer cell to the immunostimulatory nucleic acid, (2) stimulating natural killer cell lytic activity comprising exposing a natural killer cell lytic activity, (3) inducing interferon-gamma in a subject to treat an immune system deficiency comprising administering to the subject to induce system deficiency comprising administering to the subject to induce immunostimulatory nucleic acid. The immunostimulatory nucleic acid. The methods are useful for inducing IL-6, interferon-gamma or IL-12, or stimulating natural killer cell lytic immunostimulatory nucleic acid. The methods are useful for inducing IL-6, interferon-gamma or IL-12, or stimulating natural killer cell lytic activity in a subject, particularly a human. The methods are particularly useful for modulating an immune response. AAH50571 to AAH50671 represent
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Immunostimulatory; inducing; natural killer cell; lytic activity; unmethylated CpG dinuclectide; immune response; B cell proliferation; Th1; immune activation; interleukin 6; IL-6; interferon gamma; IFN-gamma;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Methods for inducing II-6, interferon-gamma or II-12, or stimulating natural killer cell lytic activity in a human, comprise administering to the subject or exposing a natural killer cell to immunostimulatory
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especially capable of causing malaria. The present sequence represents parasitic infection preventing exemplary oligonucleotide sequence from the present invention
                                                                                                                                                                          Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Murine IL-6 secretion inducing oligonucleotide SEQ ID NO:6.
                                                                                                                               100.0%; Score 15; DB 3; Length 15; 100.0%; Pred. No. 1.4e+02; Live 0; Mismatches 0; Indels
                                                                                          Sequence 15 BP; 3 A; 3 C; 5 G; 4 T; 0 U; 0 Other;
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(USSH ) US DEPT HEALTH & HUMAN SERVICES.
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                                                                                                                                                                                                                     1 GCATGACGTTGAGCT 15
                                                                                                                                                                                                                                                         GCATGACGTTGAGCT 15
                                                                                                                                                                                                                                                                                                                                                               AAH50576 standard; DNA; 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                 22-AUG-2001 (first entry)
                                                                                                                                                      Best Local Similarity 100.
Matches 15; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             nucleic acids.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 cytokine; ss
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                                                                                                                                   Query Match
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The present invention relates to a composition comprising an isolated immunostimulatory nucleic acid which comprises unmethylated cytosineguantne (CpG) dinucleotides and an antigen in a carrier. The present sequence is an oligonucleotide, which was used in the present invention. The immunostimulatory nucleic acids are useful for ameliorating an immune system deficiency (the presence of tumour, cancer or infectious agent) in a subject. The immunostimulatory nucleic acids are also useful for response to contact with a particular allergen. The immunostimulatory nucleic acids are also useful for nucleic acids are also useful for an allergic reaction in response to contact with a particular allergen. The immunostimulatory nucleic acids are also useful for vaccination and for treating leukaemia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              in a subject on administration prior to or in conjunction with a chemotherapy, so that the subject's leukaemia cells are more sensitive to chemotherapy. The compositions are useful for inducing an antigen specific immune response in the subject. The compositions can be also
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Compositions comprising immunostimulatory molecules which comprise unmethylated CpG dinucleotides useful for ameliorating immune system deficiency, treating leukemia and desensitizing subject against allergic
                                                                                                                                                                                                                                                                                                            Immunostimulant; antiallergic; cytostatic; antiasthmatic; vaccine; gene therapy; CpG; immune system deficiency; tumour; cancer; infection;
                                                                                         Gaps
  oligonucleotide sequences used in the exemplification of the present
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                                                                  Length 15;
                                                                                          Indels
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                                                                 100.0%; Score 15; .DB 4; I
100.0%; Pred. No. 1.4e+02;
ive 0; Mismatches 0;
                                         Sequence 15 BP; 3 A; 3 C; 5 G; 4 T; 0 U; 0 Other
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Steinberg AD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (COLE-) COLEY PHARM GROUP INC.
(USSH ) US DEPT HEALTH & HUMAN SERVICES.
                                                                                                                                                                                                                                                                                    Phosphorothicate CpG oligonuclectide #2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Disclosure; Col 7; 55pp; English.
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                                                                                                                                                                                                           AAH19256 standard; DNA; 15 BP.
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(COLE-) COLEY PHARM GROUP IN
                                                                                                                   1 GCATGACGTTGAGCT 15
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                                                                                                                                                                                                                                                             (first entry)
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                                                                   Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                          leukaemia; ss.
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07-FEB-1995;
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                                                                                                                                                                                                                                                                                                                                                                  Synthetic.
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DB 4; Length 15;

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Compositions comprising immunostimulatory molecules which comprise unmethylated CpG dinucleotides useful for ameliorating immune system deficiency, treating leukemia and desensitizing subject against allergic
                                                                                                                                                                                                                                                                                                                                                                                                              Immunostimulant, antiallergic; cytostatic; antiasthmatic; vaccine; gene therapy, CpG; immune system deficiency; tumour; cancer; infection;
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                                                                                                                                                                                                                                                                                                                                                         CpG Oligonucleotide #4 used to stimulate mouse B cells.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (IOWA ) UNIV IOWA RES FOUND.
(COLE-) COLEY PHARM GROUP INC.
(USSH ) US DEPT HEALTH & HUMAN SERVICES.
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                                                                                                                                                                              BP.
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95US-00386063.
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                                                                                                                                                                              AAH19266 standard; DNA; 15
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nes 15; Conservative
1 GCATGACGTTGAGCT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          leukaemia; ss
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07-FEB-1995;
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                                                                                                                                                                                                                                          AAH19266;
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Synthetic.

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AAH19298;

AAH19296

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The present invention describes an improvement to a method requiring the administration of interferon alpha (IFNalpha), involving administering an immunostimulatory nucleic acid (ISNA). The sequences of a number of such nucleic acids are also provided. These may comprise oligonucleotides with phosphorothioate backbones, palindrowes, or G-rich sequences. The agequences of the invention are useful in the treatment of proliferative diseases, such as cancers, and viral infections. The present sequence is an example of an immunostimulatory oligonucleotide
                                                                                                                             Immunostimulatory nucleic acid; ISNA; human; interferon alpha; IFN-alpha; viral infection; phosphorothioate backbone; palindrome; cancer; ds.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Improving the efficacy of treatments involving the administration of interferon-alpha by co-administering an isolated immunostimulatory
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           100.0%; Score 15; DB 4; Length 15; 100.0%; Pred. No. 1.4e+02; ive 0; Mismatches 0; Indels
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                                                                                     CpG immunostimulatory nucleic acid SEQ ID NO: 63.
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                                                                                                                                                                                                                                                                                                                                                                                                                            PHARM GROUP INC
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                                            11-JUN-2001 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Hartmann G, Bratzler RL,
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Best Local Similarity 100.
Matches 15; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WPI; 2001-290487/30.
                                                                                                                                                                                                                                              WO200122990-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                            (COLE-) COLEY
                                                                                                                                                                                                                                                                                                                                                                                27-SEP-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               nucleic acid.
                                                                                                                                                                                                                                                                                           05-APR-2001
                                                                                                                                                                                                  Synthetic,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Synthetic
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AAF98790;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        The present invention relates to a composition comprising an isolated immunostimulatory nucleic acid which comprises unmethylated cytosine-guanine (CpG) dinucleotides and an antigen in a carrier. The present sequence is an oligonucleotide, which was used in the present invention. The immunostimulatory nucleic acids are useful for ameliorating an immune system deficiency (the presence of tumour, cancer or infectious agent) in a subject. The immunostimulatory nucleic acids are also useful for acesonse to contact with a particular allergen. The immunostimulatory nucleic acids are also useful for nucleic acids are also useful for a subject on administration prior to or in conjunction with a chemotherapy, so that the subject is leukaemia cells are more sensitive to chemotherapy. The compositions are useful for inducing an antigen specific immune response in the subject. The compositions can be also
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Compositions comprising immunostimulatory molecules which comprise unmethylated CpG dinucleotides useful for ameliorating immune system deficiency, treating leukemia and desensitizing subject against allergic
                                                                                                                                                                                                                                                                 oostimulant; antiallergic; cytostatic; antiasthmatic; vaccine; therapy; CpG; immune system deficiency; tumour; cancer; infection;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 15 BP; 3 A; 3 C; 5 G; 4 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             used to treat or prevent the symptoms of asthma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Klinman D, Steinberg AD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (COLE-) COLEY PHARM GROUP INC.
(USSH ) US DEPT HEALTH & HUMAN SERVICES.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Disclosure; Col 21; 55pp; English.
                                                                                        AAH19298 standard; DNA; 15 BP.
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95US-00386063.
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nes 15; Conservative (
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                                                                                                                                                                              (first entry)
                                                                                                                                                                                                                          Oligonucleotide CpG S-ODN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WPI; 2001-280761/29
                                                                                                                                                                                                                                                                   Immunostimulant;
                                                                                                                                                                                                                                                                                                                  leukaemia; ss.
                                                                                                                                                                                                                                                                                                                                                                                                     US6207646-B1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       15-JUL-1994;
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mutation

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AAF98790 standard; DNA; 15

RESULT 19 AAF98790 ID AAF9 XX

Query Match

Best Loc Matches

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The present sequence represents a positive control oligonucleotide, which is used to test proliferation of B lymphocytes. The specification describes an immunostimulatory oligonucleotide. This oligonucleotide stimulates proliferation of B lymphocytes. The immunostimulatory oligonucleotide is used in pharmaceuticals for the preparation of human medicines, or as a vaccine adjuvant or compositions, for therapeutic or prophylactic use, and containing one or more antigens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Vaccine; cytostatic; virucidal; bactericidal; fungicidal; anti-parasitic; immunostimulatory; tumour; viral infection; bacterial infection; fungal infection; parasitic infection; cancer; asthma; infections disease; allergy; immune deficiency; phosphorothioate; se.
                                                                                                                                                                                                                                                                                                                                                                          New immunostimulatory oligonucleotide, useful as a vaccine adjuvant, stimulates proliferation of B lymphocytes.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       100.0%; Score 15; DB 4; Length 15; 100.0%; Pred. No. 1.4e+02; tive 0; Mismatches 0; Indels
                                                    /*tag= a
/note= "contains phosphorothioate bonds"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 15 BP; 3 A; 3 C; 5 G; 4 T; 0 U; 0 Other;
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              Location/Qualifiers
                                                                                                                                                                                                                                                                                                      Sodoyer R;
                                                                                                                                                                                                                                                                                                                                                                                                                                          Example 1; Page 7; 14pp; French.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BP.
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27-SEP-1999; 99US-0156135P.
23-AUG-2000; 2000US-0227436P.
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/*tag=
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                                                                                                                                                                                                                                                                                                                                          WPI; 2001-591762/67.
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                  Key
modified_base
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                                                                                                                                                  24-AUG-2001.
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                                                                                                                                                                                                                                                                                                      Bachy M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
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ID AAF9
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 The present invention relates to immunomodulatory oligodecxyribonucleotides (ODNs) containing methylated or unmethylated cytosine-guanine (CpG) dinucleotides. Immunostimulatory ODN compositions lymphocytes and for treating, preventing or ameliorating an immune system deficiency e.g. tumour or cancer or viral, fungal, bacterial or parasitic infection and leukaemia. Neural ODN that contains a methylated CpG dinucleotide are useful for treating diseases such as systemic lupus erythematosus, sepsis and autoimmune diseases. Immunoinhibitory ODN containing CpG dinucleotides that are not in the stimulatory motif and decition and expense of the containing cpG dinucleotides that are not in the stimulatory motif and decition and expense of the containing the sequences at or near both termini have antiviral
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Immunostimulatory composition useful for stimulating immune response in a subject, comprises antigen and immunostimulatory nucleic acid comprising oligonucleotides having unmethylated cytosine-guanine dinucleotides.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       activity. The present sequence is an immunomodulatory oligodeoxyribonucleotide (ODN) 1d mutant. This is used to determine whether CpG or non-CpG ODNs causes B cell activation and immunoglobulin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Immunostimulatory oligonucleotide; B lymphocyte; vaccine; adjuvant;
phosphorothioate; 88.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Nucleotide sequence of a positive control oligonucleotide.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 15 BP; 3 A; 3 C; 5 G; 4 T; 0 U; 0 Other;
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                                                                                                                                                                                                                                                                                                                                                                                                                              Steinberg AD;
                                                          /*tag= c
replace(12, G)
/*tag= d
replace(13, C)
  replace(4, A)
/*tag= b
replace(11, A)
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replace(14, G)
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(COLE-) COLEY PHARM GROUP.
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Best Local Similarity 100.5
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Claim 101; Page 53; 338pp; English.
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                                                                                                                                                    The present invention relates to a method for stimulating an immune response. The method comprises administering an immunostimulatory nucleic acid to a non-rodent subject in sufficient quantity to stimulate an immuno response. The present sequence is one such immunostimulatory nucleic acid. The immunostimulatory nucleic acids can be pyrimidine rich (py-rich) or thymidine (T) rich. The method is used to vaccinate subjects against tumour antigens, viral antigens (e.g. herpesviridae, retroviridae, and/or orthomyxoviridae), bacterial antigens (e.g. toxoplasma, tamphylocaccus), fungal antigens and/or parasitic antigens. The method is also useful for preventing cancer, asthma, infectious disease, allergy or immune deficiency. The present sequence can also be used to redirect a the to a fhl immune response and to activate immune cells. Note: the present sequence may have a phosphorothioate backbone
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                                                                           Vaccinating against tumors, infectious diseases, allergies and asthma using immunostimulatory Py-rich and TG nucleic acids.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Vaccinating against tumors, infectious diseases, allergies and asthmausing immunostimulatory \mathrm{Py-rich} and \mathrm{TG} nucleic acids.
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match 100.0%; Score 15; DB 4; Length 15; Best Local Similarity 100.0%; Pred. No. 1.4e+02; Matches 15; Conservative 0; Mismatches 0; Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Immunostimulatory nucleic acid #682.
                                                                                                                           Claim 101, Page 53; 338pp; English.
              Vollmer J;
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(COLE-) COLEY PHARM GMBH.
                Schetter C,
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                                              WPI; 2001-273485/28
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                Krieg AM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAF99566;
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response. The method comprises administering an immunostimulatory nucleic acid to a non-rodent subject in sufficient quantity to stimulate an immunostimulate an uncleic acids can be pyrimidine for thymidine (T) rich. The method is used to vaccinate subjects against tumour antigens, viral antigens (e.g. herpesviridae, retroviridae, and/or campylobacter, clostridium, Escherichia coli and/or staphylococcus), fungal antigens and/or parasitic antigens. The method is also useful for preventing cancer, asthmá, infectious disease, allergy or immune deficiency. The present sequence can also be used to redirect a final to a Thi immune response and to activate immune cells. Note: the present sequence may have a phosphorothioate backbone
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using immunostimulatory Py-rich and TG nucleic acids.
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The present invention relates to a method for stimulating an immune
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                                                                                                                                                                                                                                                                                                                                                                                                                100.0%; Score 15; DB 4; Length 15; 100.0%; Pred. No. 1.4e+02; ative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                  Sequence 15 BP; 3 A; 3 C; 5 G; 4 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Immunostimulatory nucleic acid #746.
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ID AAF99630 standard; DNA; 15 BP.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 GCATGACGTTGAGCT 15
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                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity 100.
Matches 15; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (COLE-) COLEY PHARM GMBH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Krieg AM, Schetter C,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 2001-273485/28.
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Seguence 15 BP; 3 A; 3 C; 5 G; 4 T; 0 U; 0 Other;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          25-SEP-1999;
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                                                                                                                                                                                                                                                                                                                                                                                Synthetic.
                                                                                                                                                                                                                            AAF98961;
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                                                                                                                                                                     RESULT 26
                                                                                                                                                                                   AAF98961
ID AAF
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           The present invention relates to a method for stimulating an immune response. The method comprises administering an immunostimulatory nucleic acid to a non-rodent subject in sufficient quantity to stimulate an immuno-rodent subject is one such immunostimulatory nucleic acid. The immunostimulatory nucleic acids can be pyrimidine rich (py-rich) or thymidine (T) rich. The method is used to vaccinate subjects against tumour antigens, viral antigens (e.g. herpesviridae, retroviridae and/or orthomyxoviridae), bacterial antigens (e.g. toxoplasma, reaphylococcus), fungal antigens and/or parasitic antigens. The method is also useful for preventing cancer, asthma, infectious disease, allergy or immune deficiency. The present sequence can also be used to redirect a Th2 to a Th1 immune response and to activate immune cells. Note: the present sequence may have a phosphorothioate backbone
                                                                                                                                                                                  ö
against tumour antigens, viral antigens (e.g. herpesviridae, retroviridae and/or orthomyxoviridae), bacterial antigens (e.g. toxoplasma, haemophilus, campylobacter, clostridium, Escherichia coli and/or staphylococcus), fungal antigens and/or parasitic antigens. The method is also useful for preventing cancer, asthma, infectious disease, allergy or immune deficiency. The present sequence can also be used to redirect a Th2 to a Th1 immune response and to activate immune cells. Note: the present sequence may have a phosphorothioate backbone
                                                                                                                                                                                                                                                                                                                                                                                                                        Vaccine, cytostatic; virucidal, bactericidal, fungicidal, anti-parasitic; immunostimulatory, tumour; viral infection, bacterial infection; fungal infection; parasitic infection; cancer; asthma; infectious disease; allergy; immune deficiency; phosphorothioate; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Vaccinating against tumors, infectious diseases, allergies and asthma using immunostimulatory Py-rich and TG nucleic acids.
                                                                                                                                                                                     Gaps
                                                                                                                                                                                     ö
                                                                                                                                                        100.0%; Score 15; DB 4; Length 15; 100.0%; Pred. No. 1.4e+02;
                                                                                                                                                                                     0; Indels
                                                                                                                             Sequence 15 BP; 4 A; 5 C; 3 G; 3 T; 0 U; 0 Other;
                                                                                                                                                                                     0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Disclosure; Page 39; 338pp; English
                                                                                                                                                                                                                                                                                                                                                                                                 Immunostimulatory nucleic acid #57.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Vollmer J;
                                                                                                                                                                                                                                                                                                               BP.
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27-SEP-1999; 99US-0156135P.
23-AUG-2000; 2000US-0227436P.
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(COLE-) COLEY PHARM GMBH.
                                                                                                                                                                                                                1 GCATGACGTTGAGCT 15
                                                                                                                                                                                                                                 AAF98941 standard; DNA; 15
                                                                                                                                                                                                                                                                                                                                                                      (first entry)
                                                                                                                                                           Query Match 100.
Best Local Similarity 100.
Matches 15; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Synthetic.
                                                                                                                                                                                                                                                                                                                                            AAF98941;
                                                                                                                                                                                                                                                                                      RESULT 25
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              anti-parasitic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Vaccinating against tumors, infectious diseases, allergies and asthma
using immunostimulatory Py-rich and TG nucleic acids.
                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           88.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Vaccine, cytostatic, virucidal, bactericidal, fungicidal, anti-par
immunostimulatory, tumour, viral infection, bacterial infection,
fungal infection, parasitic infection, cancer, asthma;
infectious disease, allergy, immune deficiency, phosphorothioate,
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   Length 15;
                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            present sequence may have a phosphorothioate backbone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 15 BP; 3 A; 3 C; 5 G; 4 T; 0 U; 0 Other;
                         red. No. 1.4e+02;
Mismatches 0;
Score 15; DB 4;
Pred. No. 1.4e+02
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Disclosure; Page 40; 338pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Immunostimulatory nucleic acid #77.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Vollmer J;
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                                                                                                                                                                                                                                                                                                                                                  AAF98961 standard; DNA; 15 BP
100.0%;
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99US-0156135P.
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                                100.08;
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                                                                                                                             1 GCATGACGTTGAGCT 15
                                                                                                                                                                                    15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       12-JUN-2001 (first entry)
Query Match 100.
Best Local Similarity 100.
Matches 15; Conservative
                                                                                                                                                                    1 GCATGACGTTGAGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Krieg AM, Schetter C,
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04-APR-2002
                                                                                                                                             13-DEC-2001
                                             Synthetic
                                                                                                                                                                                                                 Mond JJ,
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                                                                      misc_RNA
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ID ABL3
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                                                                                                                                                                                                                                                                                                                                                                                       The present sequence represents a positive control oligonucleotide, which is used to test proliferation of B lymphocytes. The specification describes an immunostimulatory oligonucleotide. This oligonucleotide stimulates proliferation of B lymphocytes. The immunostimulatory oligonucleotide is used in pharmaceuticals for the preparation of human medicines, or as a vaccine adjuvant or compositions, for therapeutic or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DNA/RNA hybrid; phosphorothioate backbone; immunostimulatory; vaccine;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                             New immunostimulatory oligonucleotide, useful as a vaccine adjuvant
stimulates proliferation of B lymphocytes.
                                                                                                                            Immunostimulatory oligonucleotide; B lymphocyte; vaccine; adjuvant;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                100.0%; Score 15; DB 4; Length 15; 100.0%; Pred. No. 1.4e+02; tive 0; Mismatches 0; Indels
                                                                                                           Nucleotide seguence of a positive control oligonucleotide.

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/*tag= a
/note= "contains phosphorothioate bonds"

                                                                                                                                                                                                                                                                                                                                                                                                                                               prophylactic use, and containing one or more antigens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 15 BP; 3 A; 3 C; 5 G; 4 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Immunostimulatory oligonucleotide SEQ ID NO: 29.
                                                                                                                                                                        Location/Qualifiers
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                                                                                                                                                                                                                                                                                                                                                                        Example 1; Page 7; 14pp; French.
                                                     BP
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                                                                                                                                                                                                                                                                        18-FEB-2000; 2000FR-00002057
          15
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                                                                                                                                                                                                                                                                                        (AVET ) AVENTIS PASTEUR SA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ABL35122 standard; DNA; 15
                                                     AAH78474 standard; DNA; 15
                                                                                         (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (first entry)
GCATGACGTTGAGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    15; Conservative
                                                                                                                                                                                                                                                                                                           Trannoy E,
                                                                                                                                                                                                                                                                                                                            WPI; 2001-591763/67.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local Similarity
                                                                                                                                     phosphorothioate;
                                                                                                                                                                       Key
modified_base
                                                                                                                                                                                                                   FR2805265-A1
                                                                                         10-DEC-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     04-APR-2002
                                                                                                                                                                                                                                     24-AUG-2001
                                                                                                                                                       Synthetic
                                                                       AAH78474;
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Matches
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ID ABL:
XX
AC ABL:
XX
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DT 04-1
XX
                                              AAH78474
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The present invention relates to an immunostimulatory composition, which comprises at least one oligonucleotide comprising both an RNA region and a DNA region. The composition is useful for enhancing an immune response or inducing cytckines; It can be used as a vaccine adjuvant and in treating diseases, including pathogenic infection, (non-)malignant tumours (e.g. cancers of the brain, lung, ovary, breast, prostate or colon, or carcinoma sarcomas), autoimmune diseases or allergies (e.g. allergic rhinitis, hay fever or food allergies), Lyme disease, heparitis, HIV or malaria. The composition is also useful for treating, preventing or ameliorating the symptoms resulting from exposure to a biowarfare agent, e.g. Bbola, Anthrax or Listeria. The present sequence is an immunostimulatory oligonucleotide described in the exemplification of
                                                                                                                                                                                                                                                                             1. .15
/*tag=
//ore= "optionally thymidine is replaced by uracil to
form RNA or DNA/RNA hybrids. Thymidine is linked to at
least one other base through a ribose sugar"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       New immunostimulatory compositions comprising RNA/DNA hybrid obligonucleotides, useful for enhancing an immune response or inducing cytokines, particularly for treating diseases, e.g. cancer, allergy or HIV infection.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DNA/RNA hybrid; phosphorothioate backbone; immunostimulatory; vaccine; infection; allargy; cancer; hypersensitivity; bio-warfare; immunostimulant; antiallergic; cytostatic; antimicrobial; anti-HIV;
infection; allergy; cancer; hypersensitivity; bio-warfare;
immunostimulant; antiallergic; cytostatic; antimicrobial; anti-HIV;
immunosuppressive; protozoacide; virucide; hepatotropic; gene therapy;
antiinflammatory; antibacterial; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
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                                                                                                                                                                                                                                             Location/Qualifiers
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (BIOS-) BIOSYNEXUS INC.
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Best Local Similarity
Local 15; Conserv?
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 2002-130570/17.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WO200193902-A2
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us-10-789-536-6.rng

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WO200193902-A2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               the present invention tenaces to an immunostimitatory composition, which comprises at least one oligonucleotide comprising both an RNA region and a DNA region. The composition is useful for enhancing an immune response or inducing cytokines. It can be used as a vaccine adjuvant and in treating diseases, including pathogenic infection, (non-malignant tumours (e.g. cancers of the brain, lung, ovary, breast, prostate or colon, or carcinomas and sarcomash, autoimmune diseases or allergies (e.g. allergic rhinitis, hay fever or food allergies), Lyme disease, preventing, hay or malaria. The composition is also useful for treating, preventing or ameliorating the symptoms resulting from exposure to a biowarfare agent, e.g. Ebola, Anthrax or Listeria. The present sequence is an immunostimulatory oligonucleotide described in the exemplification of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     The present invention relates to an immunostimulatory composition, which
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/note= "optionally thymidine is replaced by uracil to
form RNA or DNA/RNA hybrids. Thymidine is linked to at
least one other base through a ribose sugar"
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immunosuppressive; protozoacide; virucide; hepatotropic; gene therapy;
antiinflammatory; antibacterial; ss.
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                                                                                                              Location/Qualifiers
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                                                                          /*tag= a //tag= a //tote="optionally thymidine is replaced by uracil to form RNA or DNA/RNA hybrids. Thymidine is linked to at least one other base through a ribose sugar"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 New immunostimulatory compositions comprising RNA/DNA hybrid oligonucleotides, useful for enhancing an immune response or inducing cytokines, particularly for treating diseases, e.g. cancer, allergy or HIV infection.
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location/Qualifiers
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                                                                                                                                                                                                                                                                                                                                                                                                                                         07-JUN-2001; 2001WO-US018276.
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AX103874 Sequence AX103894 Sequence AX104574 Sequence AX104591 Sequence AX104591 Sequence AX13433 Sequence AX342131 Sequence AX342410 Sequence AX342410 Sequence AX34243 Sequence AX3427133 Sequence	AX351820 Sequence AX351841 Sequence AX351892 Sequence AX351892 Sequence AX352112 Sequence AX35213 Sequence AX355291 Sequence AX355294 Sequence AX355294 Sequence AX355294 Sequence AX355294 Sequence AX455576 Sequence AX5576 Sequence AX547647 Sequence	BD009054 Immunosti BD069946 Ude of nu AX351997 Sequence AX352016 Sequence AX351215 Sequence AX351219 Sequence AX351719 Sequence AX351780 Sequence AX351780 Sequence AX351780 Sequence AX351978 Sequence AX351978 Sequence AX351978 Sequence AX351978 Sequence AX351979 Sequence AX351979 Sequence AX351979 Sequence AX351979 Sequence	AX352170 Sequence AX352055 Sequence AX11649 Ciona int AX1059807 Sparue au AC01998 Drosophil AC019289 Drosophil AL137182 Human DNA BX296652 Zebrafish AL139043 Homo sapi AC068273 Homo sapi AC068273 Homo sapi AC081274 Bonio rer AC091501 Drosophil CR8774187 Danio rer AC091801 Drosophil CR8774187 Danio rer AX103897 Sequence AX355297 Sequence AX355297 Sequence AX355297 Sequence AX355297 Sequence AX318406 Homo sapi BD163861 Novel pol AX121744 Sequence AX318406 Homo sapi BD163861 Novel pol AX121744 Sequence BO4307 DNA encodin
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GenCore Copyright (c) 1993 - nucleic search, using s September 3, 2005,	US-10-789-536-6 15 1 gcatgacgttgagg IDENTITY NUC Gapop 10.0 , Gal 4708233 seqs, 24 hits satisfying length: 0 length: 0 length: 200000000 : Minimum Match (Maximum Match (Listing first (GenEmbl:* 1: 9b_ba:* 2: 9b_in:* 3: 9b_in:* 4: 9b_om:* 5: 9b_ov:* 7: 9b_pat:* 7: 9b_ph:* 8: 9b_pat:* 10: 9b_px:* 10: 9b_px:* 11: 9b_px:* 12: 9b_px:* 14: 9b_ov:*	greater than or equals derived by analysis a derived by analysis bearing that the bearing of the
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DEFINITION ACCESSION VERSION KEYWORDS

RESULT 1 AR096691

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PAT 16-JUN-2001
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Krieg, A.M., Kline, J., Klinman, D. and Steinberg, A.D.
Immunostimulatory nucleic acid molecules
Patent: US 6207646-A 16 27-MAR-2001;
Location/Qualifiers
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Krieg, A.M., Kline, J., Klinman, D. and Steinberg, A.D. Immunostimulatory nucleic acid molecules
Patent: US 6207646-A 48 27-MAR-2001;
Location/Qualifiers
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Immunostimulatory nucleic acid molecules
Patent: US 6207646-A 6 27-MAR-2001;
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Sequence 48 from patent US 6207646.
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1 (bases 1 to 15)
Krieg,A.M., Kline,J., Klinman,D. and Steinberg,A.D.
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Unclassified.
1 (bases I to 15)
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Immunomodulatory oligonucleotides
Immunomodulatory oligonucleotides
In Patent: US 6194388-A 6 27-FEB-2001;
Location/Qualifiers
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Immunomodulatory oligonucleotides
Patent: US 6008200-A 6 28-DEC-1999;
Location/Qualifiers
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Sequence 6 from patent US 6194388.
AR135035.1 GI:14123940
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ACCESSION VERSION KEYWORDS SOURCE ORGANISM

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RESULT 3 AR140447

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RESULT 6 AR146293

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BD205551
Method of controlling hematopoiesis by using CpG oligonucleotide.
BD205551
BD205551.
GI:33015321
JP 2002514197-A/41.
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PN JP 2002514397-A/5
PD 21-MAY-2002
PP 14-MAY-1999 JP 2000547969
PR 14-MAY-1998 US 60/085516,02-FEB-1999 US 09/241653 PI
HERMANN WAGNER, GRAYSON LIPPORD
PC CIZNUS/OSABINSJ.70, A6IX39/39, CO7H21/04//A6IX45/00, C12N15/00
CC Synthetic Sequence
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Method of controlling hematopoiesis by using CpG oligonucleotide.
BD205515.1
GI:33015285
JP 2002514397-A/5.
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synthetic construct
other construct
of the sequences, artificial sequences.

1 (bases 1 to 15)
Wagner, H. and Lipford, G.
Wagner, H. and Lipford, G.
Patchdo of controlling hematopoiesis by using CpG oligonucleotide
Patent: JP 2002541397-A 5 21-MAY-2002;
CORY PHARMACEUTICALS GMBH, CORY PHARMACEUTICALS GROUP INC
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1 (bases 1 to 15)
Wagner, H. and Lipford, G.
Method of controlling hematopoiesis by using CpG oligonucleotide
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100.0%; Score 15; DB 6; Length 15;
Best Local Similarity 100.0%; Pred. No. 9.4e+02;
Matches 15; Conservative 0; Mismatches 0; Indels
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Best Local Similarity 100.0%; Pred. No. 9.4e+02;
Matches 15; Conservative 0; Mismatches 0;
Krieg, A.M. and Kline, J.N.
Immunostimulatory nucleic acid molecules
Patent: US 6239116-A 6 29-MAY-2001;
Location/Qualifiers
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/organism="unknown"
/mol_type="unassigned DNA"
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Unknown.
Unclassified.
1 (bases 1 to 15)
Krieg,A.M. and Weiner,G.
Methods and products for stimulating the immune system using immunotherapeutic oligonucleotides and cytokines
Patent: US 6218371-A 5 17-APR-2001;
Location/Qualifiers
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Unknown.
Unclassified.
1 (bases 1 to 15)
Krieg,A.M. and Weiner,G.
Methods and products for stimulating the immune system using immunotherapeutic oligonucleotides and cytokines
Patent: US 6218371-A 41 17-APR-2001;
Location/Qualifiers
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Best Local Similarity 100.0%; Pred. No. 9.4e+02;
Matches 15; Conservative 0; Mismatches 0;
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Sequence 41 from patent US 6218371.
AR146329
                                                                   15 bp
Sequence 5 from patent US 6218371.
AR146293.
AR146293.1 GI:15109482
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Sequence 6 from patent US 6239116.
AR154677.
AR154677.1 GI:15122730
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Unclassified.
1 (bases 1 to 15)
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Matches 15; Conservative
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LOCUS DEFINITION ACCESSION VERSION KEYWORDS SOURCE

RESULT 7 AR146329

ORGANISM

AUTHORS TITLE

REFERENCE

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FEATURES

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DEFINITION ACCESSION VERSION

RESULT 8 AR154677 ORGANISM

REFERENCE

KEYWORDS

Query Match

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Gaps

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Query Match
Best Local Similarity 100.
Matches 15; Conservative
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BD261093
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AL CORY PHARMACEUTICALS GMBH, CORY PHARMACEUTICALS GROUP INC

CORY PHARMACEUTICALS GMBH, CORY PHARMACEUTICALS GROUP INC

OS Artificial Sequence

DN JP 200214397-A/41

PD 21-MAY-2002

PF 14-MAY-1999 UP 2000547969

PR 14-MAY-1999 US 60/085516,02-FEB-1999 US 09/241653 PI

HERMANN WAGENER, GRAVSON LIPPORD

PC CL2N15/09, AGIX31/70, AGIX39/39, C07H21/04//AGIX45/00, C12N15/00

PC Synthetic Sequence

Location/Qualifiers

FT BOUICE 1. .15

/organism='Artificial common'
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JP 2002510644-A/5
09-APR-2002
02-APR-1999 UP 2000542030
03-APR-1999 US 60/080729
ARTHUR M KRIEG,GEORGE WEINER
AGIK38/00,AGIR31/7088,AGIK39/00,AGIP15/00,AGIP35/00,AGIP37/04,
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JP 2002510644-A/5.
Synthetic construct
SM synthetic construct
other sequences; artificial sequences.

E 1 (bases 1 to 15)
Krieg, A.M. and Weiner, G.
Methods and products for stimulating the immune system using immunotherapeutic oligonucleotides and cytokines
L Patent: JP 2002510644-A 5 09-APR-2002;
UNIVERSITY OF IOWA MESEARCH FOUNDATION
OS Artificial Sequence
PN JP 2002510644-A/5
PD 09-APR-1999 UP 2000542030
PR 03-APR-1999 US 60/080729
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Location/Qualifiers
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Pred. No. 9.4e+02;
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/db_xref="taxon:32630"
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/mol_type="genomic DNA"
/db_xref="taxon:32630"
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02-APR-1999 JP 2000542030
03-APR-1998 US 60/080729
ARTHUR M KRIEG, GEORGE WEINER
AGIK38/00, AGIK31/7088, AGIK39/00, AGIP15/00, AGIP35/00, AGIP37/04,
AGIK3700, AGIK31/7088, AGIK39/00, AGIP15/00, AGIP35/00, AGIP37/04,
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A61K39/00,A61K9/10,A61K9/16,A61K9/50,A61K9/51,A61K31/70,A61K39/ PC
                                                                                                                                                                                                                                                                                                             other sequences, artificial sequences.

E 1 (bases 1 to 15)

E Xrieg, A.M. and Weiner, G.
Methods and products for stimulating the immune system using immunotherapeutic oligonucleotides and cytokines on VIVERSITY OF 100M RESEARCH FOUNDATION OS Artificial Sequence PN JP 2002510644-A/41
PN JP 2002510644-A/41
PN JP 2002510644-A/41
PN JP 2002510644-A/41
PN JP 200251064-A/41

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(bases 1 to 15)
Mccluskie,M.J. and Davis,H.L.
Methods and products for inducing mucosal immunity
Patent: JP 2002516294-A 5 04-JUN-2002;
LOEB HEALTH RESEARCH INSTITUTE AT THE OTTAWA HOSPITAL, CORY
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BD261226.1 GI:33070996
BD261226.1 GI:33070996
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SYNTHETIC CONSTRUCT
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                                           Methods and products for stimulating the immune simmunotherapeutic oligonucleotides and cytokines.
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immunostimulatory synthetic oligonucleotide
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/organism="synthetic construct"
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MICHAEL J MCCLUSKIE, HEATHER L DAVIS
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OS Artificial Sequence
PN JP 2002516294-A/5
PD 04-JUN-2002
PF 21-MAY-1999 JP 2000550515
PR 22-MAY-1999 US 60/086393
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JP 2002510644-A/41.
synthetic construct
synthetic construct
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RESULT 14 BD267831

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REFERENCE AUTHORS

TITLE

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Stereoisomer of CpG oligonucleotide and method relating thereto. BD270732. GI:33080500
          BD267861.1 GI:33077629
JP 2002513763-A/34.
synthetic construct
synthetic construct
other sequences; artificial sequences.

1 (bases 1 to 15)
Graminski,R.A., Krieg,A.M., Davis,H.L. and Hoffman,S.L.
Methods for the prevention and treatment of parasitic infections and related diseases using CPG oligonucleotides
Patent: JP 200251373-3 34 14-MAY-2002;
DNIVERSITY OF 1004A RESEARCH FOUNDATION, OTTAWA CIVIC LOBB RESEARCH INSTITUTE, UNITED STATES OF AMERICA AS REPRESENTED BY THE SECRETARY
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JP 2002513763-A/34
14-MX-2002
06-MXY-1999 JP 2000546780
06-MXY-1998 US 60/084512
ROBERT A GRAMZINSKI,ARTHUR M KRIEG,HEATHER L DAVIS,STEPHEN L
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C12N15/09, A61K37/02, A61K37/24, C12N15/00

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other sequences; artificial sequences.

1 (bases 1 to 15)
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06-MAY-1998 US 60/084512
ROBERT A GRAMZINSKI, ARTHUR M KRIEG, HEATHER L DAVIS, STEPHEN L
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AG1P33/00//
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BD267831
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/organism='Artificial Sequence'
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Pred. No. 9.4e+02;
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JP 2002513763-A/4
14-MAY-2002
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JP 2002513763-A/4.
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hes 15; Conservative 0;
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Davis H.L., Schorr, J. and Krieg, A.M.
Use of nucleic acids containing unmethylated CpG dinucleotide as an adjuvant
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Matches 15; Conservative 0; Mismatches 0; Indels
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Patent: US 6429199-A 5 06-AUG-2002;
Location/Qualifiers
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Sequence 5 from patent US 6406705.
AR213813
AR213813.1 GI:23311212
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Location/Qualifiers
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Sequence 5 from patent US 6429199.
AR222180. GI:23329645

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1 (bases 1 to 15)
Krieg, A.M. and Hartmann, G.
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Immunostimulatory nucleic acids
Batent: WO 0122972-A 66 05-APR-2001;
UNIVERSITY OF IOWA RESEARCH FOUNDATION (US); Coley Pharmaceutical
GmbH (DE)
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Best Local Similarity 100.0%; Pred. No. 9.4e+02;
Matches 15; Conservative 0; Mismatches 0; Indels
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/organism="synthetic construct"
/mol_type="unassigned DNA"
/db_xref="taxon:32630"
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other sequences; artificial sequences.
15 bp
Sequence 6 from patent US 6653292.
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AR432429.1 GI:40194764
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Sequence 66 from Patent W00122972.
AX103874 GI:13920071
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Coley Pharmaceutical Group, Inc. (US); UNIVERSITY OF IOWA RESEARCH
FOUNDATION (US)
Location/Qualifiers
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Immunostimulatory nucleic acids
Patent: WO 0122972-A 835 05-APR-2001;
UNIVERSITY OF IOWA RESEARCH FOUNDATION (US) ; Coley Pharmaceutical
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Methods related to immunostimulatory nucleic acid-induced
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Best Local Similarity 100.0%; Pred. No. 9.4e+02;
Matches 15; Conservative 0; Mismatches 0; Indels
                                                        Score 15; DB 6; Length 15;
Pred. No. 9.4e+02;
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/organism="synthetic construct"
/mol_type="unassigned DNA"
/db_xref="taxon:32630"
/noTe="Synthetic Oligonucleotide"
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100.0%; Pred. No. 9.4e+02;
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Sequence 835 from Patent WO0122972.
AX104643
/mol_type="unassigned DNA"
/db_xref="taxon:32630"
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Sequence 63 from Patent WO0122990.
AX105164
AX105164.1 GI:13921314
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Immunostimulatory nucleic acids
Patent: WO 0122972-A 783 05-APR-2001;
UNIVERSITY OF IOWA RESEARCH FOUNDATION (US) ; Coley Pharmaceutical
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Pacent: WO 0122972-A 766 05-APR-2001;
UNIVERSITY OF IOWA RESEARCH FOUNDATION (US) ; Coley Pharmaceutical
                  Krieg,A.M., Schetter,C. and Vollmer,J.C.
Immunostimulatory nucleic acids
Patent: WO 0122972-A 86 05-APR-2001;
UNIVERSITY OF IOWA RESEARCH FOUNDATION (US) ; Coley Pharmaceutical
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100.0%; Pred. No. 9.4e+02;
iive 0; Mismatches 0;

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    forganism="synthetic construct"
/mol type="unassigned DNA"
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/organism="synthetic construct"
/mol_type="unassigned DNA"
/db_xref="taxon:32630"
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AX104574
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Patent: EP 11673798-A 6 02-JAN-2002;
UNIVERSITY OF 100A RESEARCH FOUNDATION (US)
Location/Qualifiers
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Immunostimulatory rna/dna hybrid molecules
Patent: WO 0193902-A 95 13-DEC-2001;
Biosynexus Incorporated (US)
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Patent: WO 0193902-A 29 13-DEC-2001;
Biosynexus Incorporated (US)
Location/Qualifiers
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100.0%; Score 15; DB 6; 1
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Sequence 29 from Patent WO0193902.
AX351733
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Sequence 95 from Patent W00193902.
AX351799
AX342443.1 GI:18151886
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Patent: EP 1167377-8 6 02-JAN-2002;
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Location/Qualifiers
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Location/Qualifiers
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Seguence 6 from Patent EP1167378.
AX342443
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Sequence 6 from Patent EP1167377
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100.0%; Score 15; DB 6; Length 15;
Best Local Similarity 100.0%; Pred. No. 9.4e+02;
Matches 15; Conservative 0; Mismatches 0; Indels

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